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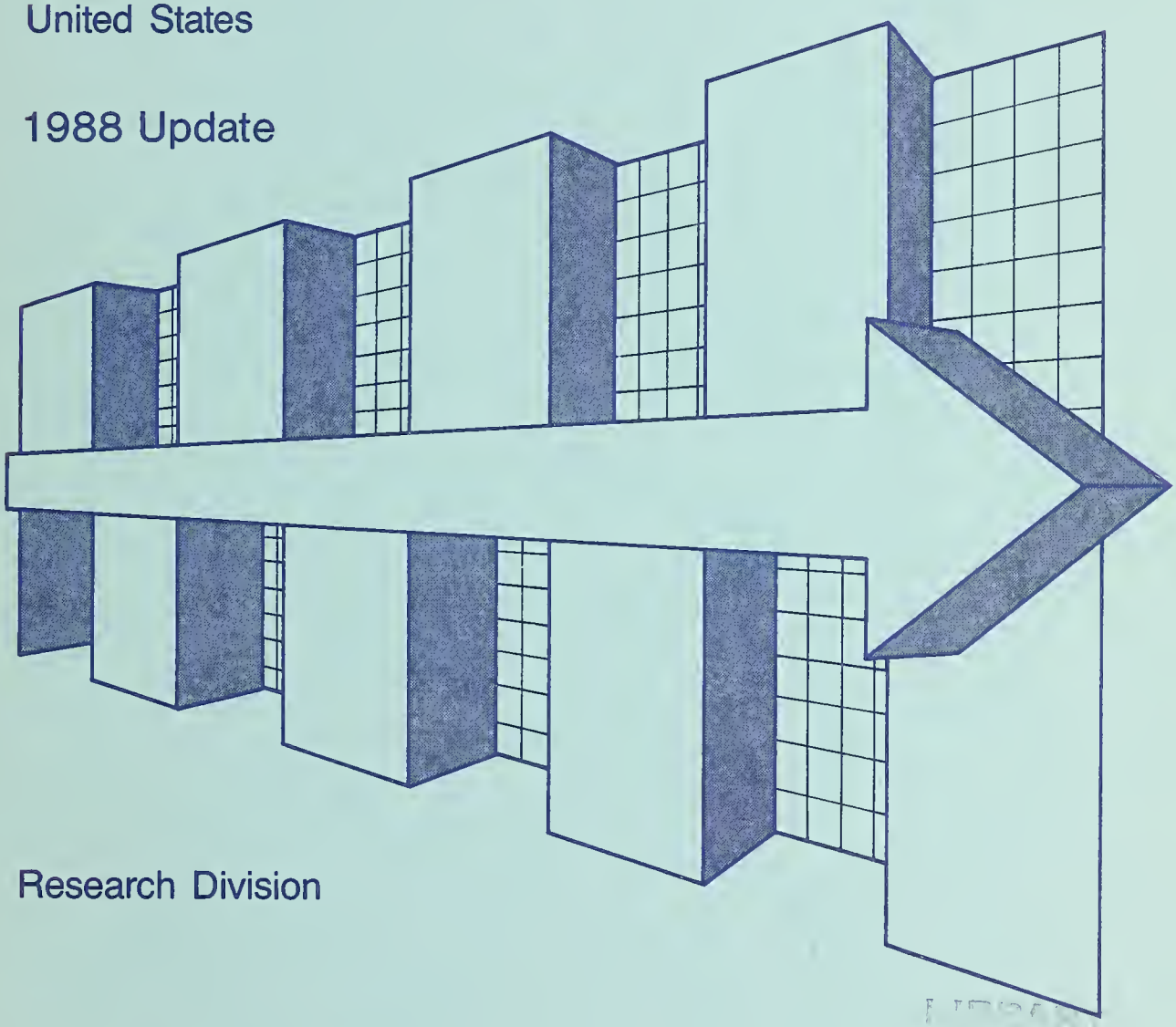
Fiscal Years 1988-1996

Trend Analyses and Related Statistics

Numbers of Returns to be filed

United States

1988 Update



Research Division

Department of the Treasury
Internal Revenue Service
Document 6011 (Rev. 5-88)

JUN 1988

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Trend Analyses and Related Statistics

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United States

1988 Update

Research Division

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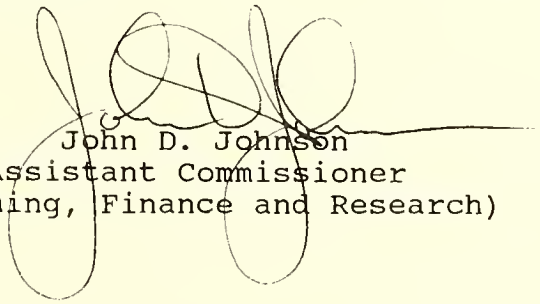
FOREWORD

This is the first update of Document 6011 that has been prepared since I became the Assistant Commissioner of Planning, Finance and Research. I think it is appropriate to dedicate this 1988 edition to the memory of Frank M. Malanga, the former Director of the Research Division, who died at age 53 this past March. Frank was among the first to see that, while functional specialization can generate efficiencies in our operations, it can also result in a narrowness of perspective and place artificial boundaries on our knowledge. He recognized the need for executives, managers, and employees in all functions to have a better knowledge of developing trends throughout the Service.

At Frank's direction, this Document 6011 was expanded from a small, purely statistical package to its present form; it now includes trend highlights in economic/industrial, demographic, technological, and work force areas; abstracts of significant research done throughout the many Service functions; and a series of articles that analyze developing trends in tax administration that are important to all of us. Frank developed this document primarily for internal use, but the breadth of its scope and the quality of analysis in past editions have generated a demand for copies from the practitioner community and public, private, and academic research organizations. My goal for this and future editions is to strive for the quality and excellence that was Frank's hallmark--not only in past editions of this document, but in all of the products he guided and molded while Director of the Research Division.

My sense is that the pace of developing trends in tax administration has been accelerating during the 1980s. As we grapple with the last two years in this decade, the impacts of the Tax Reform Act of 1986 are creating discontinuities in trends of a magnitude greater than the Service has ever faced before. We need to be further out front than ever before in discerning new and developing trends and their implications for the Service. But a sense of what has transpired in the past is an important guide to help us analyze and interpret the significance of new developments and how the Service should react to them. My hope is that each new update of this document will give us a better sense of our own history and an enhanced ability to use that history to adapt to and meet the ever-changing demands placed upon us.



John D. Johnson
Assistant Commissioner
(Planning, Finance and Research)

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SECTION I

Selected Trend Highlights:
Some Broad Trends With Implications For IRS

Demographic Trends

- The shift away from the traditional family structure and the growing acceptability of divorce can be seen clearly in the fact that fewer than two-thirds of the youngsters surveyed (64 percent) live with both of their natural parents. About 1 in 4 (23 percent) live with only one parent, while 1 in 10 (10 percent) live with one natural parent and one step-parent. Fully one-quarter of the families (25 percent) have been through a divorce.
  (American Chicle Youth Poll, The Roper Organization, March 1987)

- First there were the Yuppies--young, upwardly mobile professionals. Then came the Taffies--technologically advanced families. Now the Institute for the Future has identified a new consumer group--"Starries." These are people who view their Scarce Time As a Resource. Starries consider time as much of a factor in their buying decisions as cost. Starries will pay more money to avoid standing in line, and they don't want to waste their time shopping.
  (The Futurist, May-June, 1987)

- Summer workers are getting harder to find as the high school and college-age population continues the precipitous decline that marks the end of the baby boom. There are 450,000 fewer people between the ages of 16 and 24 available for work in this country since just last summer, and 3.1 million fewer than there were in 1980, according to the Bureau of Labor Statistics.
  (The Washington Post, May 26, 1987)

- The average size of American families is expected to continue to decline in the near future. Average household size was 3.3 in 1960 and 2.8 in 1980 and is projected to be 2.3 by 1990.
  (Executive Summary, Population Resource Center, Vol. 2, No. 8, July 1986)

- Over 7 million blacks now live in the suburbs--up 2.5 million (or 55 percent) from a decade ago. Blacks are moving to the suburbs for the same reasons as whites: better schools, houses, and open space. The 1968 Fair Housing Act, affirmative action, and an expanding black middle class have also fueled black suburbanization.
  (USA Today, June 25, 1987)

- The aging of the American population mandates that planners address issues related to health care, housing, and employment for the elderly. It is estimated that by 2010 there will be 39 million Americans over the age of 65--compared with 29 million today.
  (Executive Summary, Population Resource Center, July 1986)

- About 2.8 million young people graduated from high school in 1986. Of this number, more than half (54 percent) were enrolled in college by October. While this was about the same overall proportion as in recent years, the gap between the enrollment rates for black and white youths (37 versus 56 percent) was the largest in 2 decades.
  (Bureau of Labor Statistics, June 9, 1987)

- Percentage of 30-to-34-year-old heads of households who owned their own homes in 1975: 62.2 percent

  Percent who own their own homes today: 53.2 percent
  (Harper's Magazine, August 1987)

- The nation's single person or "live-alone" households did not increase between 1986 and 1987, in contrast to a 2.5 percent average annual increase from 1980 through 1986. This stagnation in "live-alones," which represent nearly one-fourth of all households, may be partly due to the falling incomes of young adults. The median income of householders aged 15 to 24 was less in 1986 than it was in 1980, after adjusting for inflation.
  (American Demographics, October 1987)

- The nation's Hispanic population in March 1987 reached 18.8 million, 30 percent higher than the 1980 census figure, according to a report by the Bureau of the Census. This compares with a 6 percent increase in the non-Hispanic population.
  (Bureau of the Census, September 11, 1987)

- Between 1980 and 1986, Alaska had the highest percentage increase in population of any state in the nation. Alaska's population increased by 32.8 percent during this period, while Arizona was second with a 22.1 percent increase. Nevada, Florida, and Texas were third, fourth, and fifth with population increases of 20.3, 19.8, and 17.3 percent, respectively. On the downside, Iowa had the largest percentage decrease in population (2.2 percent) between 1980 and 1986. The District of Columbia, West Virginia, Michigan, and Ohio also posted declines of 1.9, 1.6, 1.3, and 0.4 percent, respectively.
  (Bureau of the Census, October 1, 1987)

- The proportion of all households that are families increased to 72.1 percent in 1987, up from 71.9 percent in 1986, according to the Census Bureau's 1987 Current Population Survey. This represents the first time in over two decades (except for the recession year, 1982) that family households increased more than non-family households. This trend is expected to strengthen in the coming years, due to the rapid growth in the number of Americans in their 30s and 40s.
  (American Demographics, October 1987)

- The trend-setting baby boom generation is moving into its prime earning years. Between 1986 and 2000, the number of households aged 35 to 54 is expected to increase by 40 percent--from 31 million to 44 million. The median income of these households should rise by 20 percent, from $32,110 in 1986 to $38,410 in the year 2000 (after adjusting for inflation), boosting the number of affluent households to unprecedented levels.
  (American Demographics, November 1987)

- San Diego and Dallas have passed 1 million in population for the first time. They now rank seventh and eighth in population, respectively, among the nation's cities. This is the first time there have been eight U.S. cities with populations of more than one million; and it's the first addition to the million-plus list since Houston in the 1970 census. The other top-ranking cities in 1986 were New York (7.3 million), Los Angeles (3.3 million), Chicago (3.0 million), Houston (1.7 million), Philadelphia (1.6 million), and Detroit (1.1 million).
  (Bureau of the Census, October 16, 1987)

Economic and Industrial Trends

- In a poll of the "upper-affluent" (defined as persons with a minimum annual income of $100,000 or a net worth of over $500,000 excluding the value of their homes), 67 percent say they will handle their investments differently because of tax reform. Thirty-four percent of the respondents say they will put more of their money into real estate, while 25 percent plan to invest in tax-free municipal bonds.
  (Fortune, June 22, 1987)

- Percentage increase, since 1980, in the number of people who own stock: 56 percent.
  (Harper's, July 1987)

- "Non-store" retailing is booming. Consumers are buying more and more merchandise through catalogs, over the phone, or via computer, and this trend will continue, says William R. Davidson, chairman of Management Horizons, a marketing research firm in Dublin, Ohio.
  (The Futurist, July-August 1987)

- The personal saving rate of U.S. households declined to an estimated 2.3 percent in the second quarter of 1987--the lowest rate ever. One explanation of the weak savings rate throughout the mid-1980s is the positive assessment of "buying conditions" by households. According to the latest Survey of Consumer Attitudes from the University of Michigan, a remarkable 76 percent of respondents think now is a good time to buy major household items. Only 15 percent think this is a bad time to buy, while 9 percent are uncertain. This is about the same as the exceptionally strong 60 percent optimistic balance characterizing the past four years.
  (DRI U.S. Forecast Summary, July 1987)

- Office vacancy rates for downtown and suburban markets aren't expected to decline nationwide until 1989, says a new study by Salomon Brothers Inc. Salomon says the gradual improvement in vacancy rates will result from declining construction of office space. After peaking at a $29 billion annual rate in early 1986, office construction has dropped to $21 billion a year. By the end of the year, Salomon estimates, construction will plummet to an annual rate of $15 billion.
  (Wall Street Journal, July 15, 1987)

- Direct marketers are experiencing booming sales, and their success is projected to continue. Presently, direct marketers account for 14 percent of all retail sales. By 1990, they will account for an estimated 20 percent of all sales. The downside of this success is that merchandise purchased from an out-of-state business is not subject to the purchasers' state or local sales tax. That means that, in 1985, states and localities applying state and local sales tax lost somewhere between $667 million to $1.57 billion to out-of-state marketers. Because direct marketers' market share is projected to increase, the loss in state revenues will become even more pronounced in the years ahead. (Multistate Tax Commission, Background Briefing Report: Revenue Losses and Unfair Competition From Untaxed, Out-Of-State Businesses, April 1987)

- Real estate sales of homes costing $1 million dollars or more are booming. A high demand for luxury property, coupled with inflation, has driven up home prices to the point where a million-dollar price tag isn't so unusual anymore, particularly in California and the Northeast. At a time when the average new home costs $122,000 and the average existing home sells for $103,000, what accounts for the surge in million-dollar homes? Some brokers point to the new tax law, which retained deductions for mortgage interest, but made other deductions scarce.
  (USA Today, July 24, 1987)

- Seasonality plays an important role in households' decisions of whether to pay off all of their credit card bills or to defer payment on some of their charges. In the late spring and early summer, more people tend to pay off their charges, whereas in the late fall and early winter more consumers decide to defer some of their charges. One explanation for this phenomenon is that people generally receive their income tax refunds by April or May. Since two-thirds of all taxpayers get a refund check each year, disposable incomes are somewhat higher during this season. Also, the greater tendency to defer payments in the late fall and early winter is probably related to the Christmas season, when consumers are normally running up their charge bills.
  (The Public Pulse, August 1987)

- One in ten U.S. hospitals will close by 1995, and doctors' income will decline, according to an Arthur Anderson & Company study. The predictions come from a poll of 1,600 health and government officials that forecasts a continued drop in the number of hospital admissions and in the length of hospital stays.
  (Fortune, August 31, 1987)

- Now that John Whitney Payson has decided to sell Van Gogh's 1889 masterpiece "Irises" rather than donate it to Westbrook College in his hometown of Portland, Maine, the art world is preparing for a dramatic swing from charitable donations to charity-begins-at-home sales. Auction prices are setting record after record, and the tax advantages that wealthy benefactors used to enjoy are now, thanks to tax reform, a fraction of what they once were.
  (Fortune, October 12, 1987)

- The U.S. could gain more jobs through exports than it loses because of imports. Richard Belous, a labor economist at the Conference Board, and Andrew Wyckoff, an economic analyst at the U.S. Office of Technology Assessment, report that $10 billion of exports creates 193,000 new jobs, almost 8 percent more than the 179,000 jobs that disappear with $10 billion of imports. The trouble is that trade clobbers many workers who are least able to find new jobs. While more than half the jobs created by exports are white-collar positions, 56 percent of those lost as a result of imports are held by blue-collar workers.
  (Fortune, October 12, 1987)

- Married women not only hold the purse stings--they often hold the stock portfolios, checking accounts, and credit cards, a new study shows. The majority of wives--81 percent--control more than half the spending in households with more than $30,000 in income, says the survey of 1,000 women ages 35-64 conducted for Lear's magazine. "The traditional view has been the man of the house has been in charge of financial matters. Clearly this is no longer the case," says Marc Liu of Lear's.
  (USA Today, October 9, 1987)

- After-tax income of the average female-headed household in 1980: $10,585. In 1985: $10,309.
  (Harpers Magazine, November 1987)

- Charge-card volume has grown significantly in the 1980s. From 1982 to 1985, Visa saw a 96 percent increase in its volume, Master-Card an 80 percent increase, and American Express a 79 percent increase. Inflation and growth in the number of charge cards accounts for a sizable portion of the increased volume. But growth in the volume of charges per card has also been significant--up by 30 percent on American Express cards between 1982 and 1985. Not only are Americans using more credit cards, they are charging more on the average card. To put this in perspective, by the end of 1985 there were 93 million Visa cards in existence, 72 million MasterCards, and 16 million American Express Cards. And, interest charges on credit cards amount to an estimated $33 million per day.
  (American Demographics, October 1987)

- In the past few years, the growing indebtedness of American households has been due, largely, to greater borrowing by households with the highest incomes--those that can best bear the burden of debt. In 1970, the 20 percent of families with the highest incomes owed only 22 percent of all consumer debt. By 1977, that share had risen to 37 percent, and it reached 46 percent by 1983. This trend appears to reflect increasingly liberal attitudes of well-to-do households toward holding large amounts of debt. It also seems to reflect the extension by lenders of proportionately higher credit limits to high-income families.
  (American Demographics, October 1987)

- Consumer awareness of home equity loans has jumped significantly in three years--a development linked, no doubt, to increasingly aggressive advertising campaigns for them. Sixty-nine percent of homeowners today, versus 45 percent in late 1984, have read or heard about such loan possibilities. And while relatively small, the number of homeowners who have signed up for a home equity loan has increased sixfold during this period, from merely 1 percent to 6 percent.
  (The Public Pulse, September 1987)

Workforce Trends

- The labor force is projected to expand by nearly 21 million over the 1986 to 2000 period based on the Bureau of Labor Statistics moderate projections scenario. This projected increase--nearly 18 percent--represents a slowing both in the number to be added to the labor force and in the rate of labor force growth compared with the previous 14 years. The slower labor force growth projected for the 1986 to 2000 period continues a trend that started in the late 1970's. Slower growth will result primarily from fewer births between the 1960 to 1976 time period, the age group entering the labor force at least through the mid-1990's. (Bureau of Labor Statistics, June 25, 1987)

- The job-creation rate is likely to slow between now and 1995, but some occupations will flourish. The largest number of new jobs is likely to occur in occupations such as cashiers, janitors and cleaners, and truck drivers, which require minimum formal education, but the faster rate of growth will occur in more highly skilled occupations such as computer programmers, medical assistants, lawyers, and mechanical engineers. (Executive Summary, Population Resource Center, June 12, 1987)

- The number of blacks in the labor force has grown rapidly in the last two decades, a trend that is expected to continue. It is estimated that blacks will account for almost 18 percent of the additions to the labor force between 1984 and 1995, even though blacks constitute only about 12 percent of the population. Other minorities, notably Hispanics and Asian Americans, will account for more than a quarter of the increase in new workers between 1984 and 1995, while white males will account for only about 16 percent of this growth in the U.S. labor force over this period. (Executive Summary, Population Resource Center, June 12, 1987)

- A major factor in the labor force trends over the last decade has been the movement of the baby boom generation from the ages of labor force entry (age 18 to 24) into the prime working ages (age 25 to 54) when workers are typically most productive. The 25 to 54 year age group is expected to account for almost 75 percent of all workers in 1995, compared to 60.6 percent in 1960. (Executive Summary, Population Resource Center, June 12, 1987)

- High job growth rates will continue in the service sector, which is expected to increase its share of all workers from the current level of 22.4 percent to 25.4 percent in 1995. Some of the fastest growing industries are medical and business services, computers and peripheral equipment, and transportation services. Some of the most rapidly declining industries are cotton, wooden containers, leather products (including footwear), and iron mining. (Executive Summary, Population Resource Center, June 12, 1987)

- By the year 2000, almost half (47 percent) of the labor force will be composed of women (compared to 44 percent in 1985) and 60 percent of all women aged 16 to 64 will be working. (Executive Summary, Population Resource Center, June 12, 1987)

- A recent study by two research psychologists casts doubt on the traditionally held assumption that teenagers benefit from jobs. Most believe that teens learn the meaning of money and responsibility when employed, and are diverted from less constructive activity. Yet the researchers found that after-school employment increased teenager's risk of alcohol and marijuana exposure and abuse, lowered the quality of schooling, and led to greater cynicism about employment generally. Since the burgeoning service economy and the demographic shifts are pulling more teens into jobs, more thought should go into the real versus the perceived value of employment for the young.
  (CSPA State Scanning Network, May 1987)

- The future U.S. work force is likely to include a higher proportion of "traditionally underutilized groups" such as women, teenagers, minorities, immigrants, retirees and the handicapped. If these Americans are not prepared to be productive workers, employers will have to provide training or retraining, automate or mechanize, or export jobs overseas.
  (Executive Summary, Population Resource Center, June 12, 1987)

- Industry employment shifts and changes in staffing patterns are expected to alter the occupational structure of employment. In general, occupations in which current participants have the most education are projected to grow the most rapidly--although many jobs should continue to be available for those with only a high school education despite their relatively slower growth. However, those with less than a high school education face increasing difficulty in their job search and less opportunity for good pay and advancement.
  (Bureau of Labor Statistics, June 25, 1987)

- U.S. workers are wary of their managers. A study, conducted in May and June by Wyatt Co., attempted to measure the attitudes of private industry employees concerning a range of work-related issues, including wages, job security, workers' commitment to their jobs and their impression of senior management's performance. Questions regarding management got some of the most negative responses of the survey. Only 39 percent of the respondents gave overall favorable ratings when asked how they were treated by management above their immediate superiors, while 26 percent responded unfavorably.
  (The Washington Post, August 22, 1987)

- People with college degrees had an average monthly income of $1,910 in 1984, nearly twice the $1,045 average for those with only high school diplomas, according to a report by the Census Bureau. The report also states that persons with professional degrees (i.e., doctors, lawyers, etc.) have the highest monthly incomes of all degree holders at $3,871. The monthly average for holders of other degrees is reported as $3,265 for Ph.D's, $2,288 for master's degrees, $1,841 for bachelor's degrees, and $1,346 for associate degrees. Average monthly income for those without a high school diploma was $693. (Income includes wages and salary as well as all other money income, i.e., pensions, paid benefits, interest, dividends, etc.)
  (Bureau of the Census, October 2, 1987)

- Mothers are returning to work sooner after giving birth than ever-before. In March 1987, 52 percent of the mothers with children one year old or younger were in the labor force. Five years earlier, the proportion was 43 percent, and 10 years before it was only 32 percent. Divorced mothers were the most likely to be in the labor force. Their participation rate was 80 percent, compared with a low of 54 percent for never-married mothers.
  (Bureau of Labor Statistics, August 12, 1987)

- In 56 percent of married-couple families, both husband and wife were earners at some time during 1986. Ten years before, the proportion was 48 percent. The once so-called "typical" American family--husband earner, wife homemaker, and two children--accounted for only 3.7 percent (2.4 million) of all the nation's families. In contrast, 19 percent were families where both husband and wife were earners with no children under 18.
  (Bureau of Labor Statistics, August 12, 1987)

- The educational level of the adult labor force (25 to 64 years old) is continuing to rise; this is especially evident in the increase in the proportion of workers--particularly women--with 4 years of college or more. One out of four members of the labor force now has a college degree, and women represent 40 percent of college-educated workers.
  (Bureau of Labor Statistics, September 28, 1987)

- The number of workers hired by new businesses in the U.S. dropped by more than 10 percent between 1985 and 1986, despite some growth--0.7 percent--in the number of new businesses. Overall, there were 252,000 business starts in 1986, up from 250,000 in 1985. However, the number of workers in the new firms fell to 1.2 million in 1986, down from 1.4 million in 1985.
  (American Demographics, November 1987)

- To meet the needs of the modern, two-income family, employers will feel growing pressures to modify current employee benefits programs. Flexible work hours and schedules, part-time jobs, and job sharing will be increasingly important for two-income families with young children. Demand for daycare services--especially on employer premises--should accelerate.
  (The Public Pulse, January 1987)

- Despite the fascination with computers in the marketplace, only 3 percent of young people say they want to pursue careers in computers. The American Chicle Youth Poll, conducted by the Roper Organization, asked a representative sample of 1,000 youths, ages 8 to 17 about their lives and futures. Of those who knew what fields they wanted to work in when they were adults, only 3 percent picked computers.
  (The Wall Street Journals, July 22, 1987)

Trends in Technology

- In a recent study, Disk/Trend Inc. concluded that the optical disk--a storage medium utilizing laser technology that can effectively store much more data than conventional magnetic media--has a very bright future. According to Disk/Trend, Inc., 28 manufacturers produce 72 different makes of optical drives. Disk/Trend Inc. predicts that worldwide revenues from optical drives will increase from $203 million last year to $1.4 billion in 1990 with U.S. makers earning 23 percent of those revenues. (Business Week, September 7, 1987)

- The science of computer graphics is making technological leaps into real-world applications. New graphics products allow technicians in medicine, manufacturing, and defense to turn two-dimensional x-rays and photographs into remarkably clear three-dimensional images. (Fortune, April 27, 1987)

- IBM's PS/2 line of computers is generating a lot of interest from Microsoft Corp., the No. 2 publisher of personal computer software The Redmond, Washington company is going to introduce about 12 or so software packages containing new or enhanced programs for the PS/2 line. The software should be available by the end of the year. (Business Week, September 7, 1987)

- Despite the very positive feelings Americans express about the overall impact of computers on society, nearly a two-fifths plurality believe that computers capable of thought processes similar to those of humans would have a negative impact on society as a whole. Nearly three out of ten say such computers would do equal amounts of good and harm, and only one in five think they would do more good than harm. (Cambridge Report - First quarter 1987)

- Though the proportion of Americans who regularly use computers is small, fully half the population say they would be at least somewhat interested in purchasing a home computer if they could afford it. Of this group, just under half--or 22 percent of the overall population--say they would be very interested in buying a home computer. Two-fifths of the population, however, express no interest in making such a purchase. Nearly one in ten consumers volunteer that they already own a home computer. (Cambridge Report - First quarter 1987)

- Close to three-fifths of the population report they have never used an automatic teller machine, or ATM. The two-fifths minority who have personal experience with ATMs are virtually unanimous in saying they like using the machines. (Cambridge Report - First quarter 1987)

- An up-and-coming development in the field of artificial intelligence (AI) is the creation of "power packs"--specialized AI tools or system "drivers"--which contain generic knowledge that can provide solutions to specific problems found in particular industries or fields of endeavor. One such "power pack" is already helping the utilities industry to design and build new plants. What it does, in effect, is allow users to place simulated boilers, pipes, and valves in various configurations on a video screen while a software program runs fail-safe checks on the design.
  (The Futurist, July-August 1987)

- A revolution is on its way to U.S. wallets. Sometime in the next few years, MasterCard International and Visa will replace their magnetic-strip cards with flat plastic rectangles containing computer chips. Unlike current credit cards, which store information on a magnetic strip and are easy to read, alter, and forge, smart cards protect the information they carry with an electronic lock. Although the majority of smart cards will be used for financial services, they can be used for a variety of applications such as storing medical and health-insurance information, phone numbers, appointments, or other records. This versatility, when applied to the federal government, could save time, money, and resources in the areas of data storage and retrieval.
  (High Technology Business, September 1987)

- Due to the development of very-small-aperture terminals, or VSATs, the satellite-communications business is generating new capabilities that were unheard of only a few years ago. The VSATs are compact antennas that are smaller, easier to install, and less likely to be banned by urban zoning rules than conventional satellite dishes, which measure as much as 10 feet across. VSATs now enable private data networks to help companies send computer data to widely scattered locations. The first wave of VSAT users consists mainly of financial institutions and retail chains--businesses that tend to operate large numbers of geographically-dispersed facilities.
  (High Technology Business, November 1987)

- The Securities & Exchange Commission plans to implement a program in which investors will have the option of filing their reports electronically. The system, known as Electronic Data Gathering Analysis & Retrieval (EDGAR), was first considered in 1983; however, the project did not attract any potential contractors until recently. (According to the latest information from the SEC, a contract for developing project EDGAR should be awarded by September 1988; the system is expected to be operational one year later.)
  (Business Week, May 25, 1987)

- A network operating system for IBM's PS/2 line of computers is being developed by a company in Westboro, Massachusetts called Banyan Systems. Banyan Systems reports that VINES/386 will provide Local Area Network communication and file transfer abilities.
  (BYTE, August, 1987)

- By 1990, an estimated 49 million white-collar workers will be using keyboards--typewriters, word processors, and personal computers--at work. That is a 14 million increase from the estimated 35 million workers that are already using keyboards in 1987.
  (USA Today, October 6, 1987)

- The problem of communication between different types of computers with "non-compatible" communications protocol is being solved by a company in Baton Rouge, Louisiana called Communications Research Group (CRG). According to CRG they have a software package that runs under 31 different operating systems which include CP/M, Unix, numerous minicomputer operating systems, and both IBM and Amdahl mainframe operating systems. After the software package is installed on the different systems, the host computers agree on a communications protocol and a communications link is established.
  (BYTE, August 1987)

- The Department of Transportation's Tariff Division wants to get in on electronic filing. The Division's main task is to keep track of the changing fares and rates of air transportation. This entails analyzing the 20,000 pages worth of tariff changes that the airline industry files each month. Furthermore, there are about 50 changes per page per month which constitutes 1 million updates per month that the division must analyze. Currently, the information is first automated, by the airlines, and then changed back into print before DOT files it. The department's Transportation Systems Center in Cambridge, Massachusetts will develop the system using the resources of Unisys Corporation. The fully operational electronic tariff filing system will reside on an Amdahl, or similar mainframe, and take up to four years to complete.
  (Federal Computer Week, August 10, 1987)

- Welfare checks go electronic in St. Paul, Minnesota. A test program has 1,000 recipients of Aid to Families with Dependent Children collecting their benefits by using a special magnetic-stripped identification card at automatic teller machines.
  (The Wall Street Journal, July 16, 1987)

- Electronic data interchange (EDI) is changing the way America conducts business. EDI allows specially formatted documents to be sent from one computer to another electronically. This method provides a valuable link between companies, customers, and suppliers. There are many advantages to using EDI. Companies use fewer data-entry personnel, which cuts down on human error and prevents delays. Inventory levels are lowered, invoices aren't "lost," and the customer is served better. Sales data, shipment information, invoices, and new orders are all managed more efficiently. EDI is still far from being the standard way of conducting business, but the transition is taking place.
  (Business Week, August 3, 1987)

- The Federal Communications Commission's responsibility of regulating telephone companies was further complicated by the split-up of AT&T in 1985--especially since they must now make sense of different types of financial information presented in varying formats by the different phone companies. The FCC is trying to solve the problem by requiring large phone companies to file business and pricing data electronically under a uniform format. This is intended to improve monitoring and provide improved comparisons of financial management schemes. For example, the FCC could better analyze expense allocations between regulated and unregulated operations and between in-state and out-of-state calls.
  (Business Week, August 3, 1987)

- Executives, many of whom are now familiar with personal computers and how they can improve efficiency, had better start looking at how PC and telecommunications technologies will affect the current structure of the workplace--and even the structure of entire industries. Large and growing numbers of employees would like to learn jobs that allow them to work at home on their own computers. And, as the "information economy" matures, a growing number will actually be able to do such homework: secretaries, typists, data processors, programmers, analysts, as well as professionals in a wider variety of fields. As telecommuting spreads, employees increasingly will be organized around tasks to be completed rather than time on the job. Also, entire industries might move into the home--high-tech versions of the old "cottage industry" tradition. Key punch/data entry and temporary secretarial services are two prime candidates.
  (The Public Pulse, January 1987)

- According to the Office of Management and Budget, Federal spending on information technology should increase by $500 million in 1988; that is an increase of 3 percent for a total of $17.4 billion.
  (Government Computer News, November 30, 1987)

- Another major advance has taken place in superconducting technology. A major problem with superconductors, conductors of electricity without resistance, is determining how to turn the brittle ceramic superconducting material into the types of wires needed for practical applications. AT&T Laboratories have taken a step toward solving this problem by producing a flexible superconducting wire that can carry large amounts of current through magnetic fields. Theodore H. Gabelle, professor of applied physics at Stanford University, says: "It is the biggest step away from theory and toward making wires we can use in making motors. It's very exciting."
  (Washington Post, December 2, 1987)

- According to a survey of 100 U.S.-based computer vendors, conducted by Ulric Weil of the Gartner Group, the market growth rate for data processing equipment is increasing into the next decade, while the telecommunications market grows at a flat rate. The survey showed that the market in data processing equipment would rise from 10 percent to 12 percent per year and that the shift from mainframes toward superminicomputers, software, and workstations would continue. As for telecommunications, the survey showed that the market would stay at around 6 percent due to the fact that the market has matured more than the data processing market.
  (InformationWEEK, November 30, 1987)

- Optical devices are playing an ever increasing role in desktop publishing. Optical scanners and disks increase the efficiency of workstations by providing a faster method of inputting text and graphics from printed sources into publishing systems and by allowing development of large databases of graphics images. For example, most desktop publishing software that utilizes optical technology can now work with 100 pages of information as opposed to the 16-page limit of a year ago.
  (BYTE, August 1987)

- As the supercomputer market expands, the top companies compete for a larger portion of the "pie." Supercomputers--the fastest and most powerful of all computers--set the standard for the industry. Currently Cray Research controls two-thirds of the $1.2 billion market, which has an annual growth rate of more than 30 percent. However, the competition is threating to slice into Cray's portion of the market. Companies such as ETA (a subsidiary of Control Data) and NEC Corporation are building supercomputers that can match, and in some instances even beat, Cray in computational power. Nevertheless, Cray says development of the Cray 3, a 15-to-20 gigaflops system, is ahead of schedule and should be ready at the end of next year.
  (Business Week October 26, 1987)

SECTION II

Trend Articles

The views expressed in the articles contained in this document represent the opinions and conclusions of the authors. Such views do not necessarily represent the position of the Internal Revenue Service.

Gross Tax Gap Trends According to New IRS Estimates

by
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According to the new IRS estimates, the gross tax gap for individuals increased from $19.7 billion in 1973 to $63.5 billion in 1987. Over the same period, the gross gap for corporations increased from $8.8 billion to $21.4 billion. These estimates reflect the effects of new legislation which causes a reduction in the individual tax gap and a rise in the corporate gap. The estimates also reflect the latest compliance data which show the individual compliance rate rising for tax year 1982.

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Introduction

The IRS defines the gross tax gap as the amount of income tax owed for a given year, but not voluntarily paid. This comprehensive measure of tax compliance provides valuable information about the challenges faced by Federal tax administration officials and tax policy-makers. The net tax gap equals the gross tax gap less taxes paid as a result of IRS enforcement activity. Although the net tax gap may be useful for some purposes, it is not analyzed here because it is not a measure of voluntary compliance.

The gross tax gap is comprised of unpaid income taxes on legally-earned individual and corporate income. Some individuals and corporations have created the gap by overstating deductions, credits, or exemptions, understating income, or making math errors on their tax returns. The gap also exists because some individuals and corporations fail to file obligatory tax returns and because some do not voluntarily pay taxes they report. (The most recent IRS estimates, however, do not include estimates for corporate nonfilers or for taxes reported, but not paid.)

Unreported income does not correspond to income earned in the "underground economy." The latter term usually refers to both illegal and legal transactions while the former covers only the legal sector. Income from illegal transactions is taxable, but extremely difficult to measure and tax. At present, IRS does not include illegal income in its tax gap estimates. The IRS estimates do account, however, for the legal portion of the so-called underground economy, such as unreported tip income, which forms part of the unreported wages and salaries, and unreported informal supplier income. (Informal suppliers operate with no regular business addresses, generally keep no formal books or records, and do not necessarily conform to formal requirements for licensing, permit filing, or other performance codes.)

Many believe that this underground economy has assumed large proportions in the United States and elsewhere--and that it continues to grow in relation to the regular economy.[1] Examining both press reports and scholarly works on the subject reveals, however, that different people define the underground economy in different ways.[2] Specifically, it is not at all clear what particular types of business activities should fall into the proper definition. This and other ambiguities make this "economy" more a figure of speech than a concept with operational meaning.

Analysis of the Gap

For 1987, the total gross income tax gap amounted to $84.9 billion. Noncompliant individuals were responsible for $63.5 billion of this total; corporations accounted for virtually all of the remaining $21.4 billion.[3] These figures represent only income tax gaps, and do not include gaps resulting from failure to report employment or excise taxes, or any other non-income tax.

As Table 1 illustrates, individuals who file returns but underreport their tax liabilities (either by underreporting income or by overstating deductions, credits or exemptions) account for most of the tax dollars lost to noncompliance. For 1987, this filer tax gap is estimated to be $56.3 billion--almost eight times as large as the gap resulting from individuals who do not file the required tax returns. The nonfiler tax gap is relatively small mainly because employers and other payers of income withhold tax from nonfilers' incomes.

The tax gap due to underreported income of individual filers ($48.3 billion) accounts for well over half of the total $84.9 billion tax gap for 1987. Underreported farm and nonfarm proprietor income ($26.3 billion) makes up more than half of all underreported individual income. This $26.3 billion includes an estimated $7.7 billion of underreported proprietor income believed to have been earned by "informal suppliers" who tend to operate "off the books." Informal suppliers include roadside or sidewalk vendors, moonlighting craftsmen or mechanics, unlicensed providers of child or elderly care services, and similar operators with informal business styles.

Other areas contributing significant amounts to the tax gap include the failure to report all capital gains ($6.6 billion), interest and dividends ($3.2 billion), partnership and small business corporation income distributions to individuals[4] ($3.2 billion), and rents and royalties ($3.1 billion). The shortfall in reported tax stemming from underreporting of wages and salaries and pensions and annuities is estimated to be about $1.5 billion. The remaining $4.2 billion is attributed to taxable Social Security and unemployment insurance payments, alimony, state income tax refunds, estate and trust income, and other income.

Table 1. Distribution of Gross Tax Gap by Source, Tax Year 1987

Source of Gap	Tax Gap ($ millions)	Distribution of the Tax Gap (percent)
Total income tax	**84,874**	**100.0**
Individual income tax	**63,475**	**74.8**
Filers of tax returns	56,301	66.3
Underreported income	48,292	56.9
Other nonfarm proprietor income	16,646	19.6
Informal suppliers	7,739	9.1
Capital gains	6,650	7.8
Interest and dividends	3,227	3.8
Partnership and small business corporation income	3,216	3.8
Rents and royalties	3,141	3.7
Farm income	1,904	2.2
Wages and salaries	1,417	1.7
Taxable unemployment and Social Security benefits	338	0.4
Alimony income	173	0.2
Pensions and annuities	123	0.1
State income tax refunds	86	0.1
Estate and trust income	64	0.1
Other income	3,566	4.2
Overstated deductions	6,062	7.1
Deductions	3,478	4.1
Exemptions	2,039	2.4
Adjustments	545	0.6
Credits	899	1.0
Math errors	1,049	1.2
Nonfilers of tax returns	7,174	8.4
Corporation income tax	**21,399**	**25.2**
Small corporations (assets under $10 million)	5,225	6.2
Unreported income	2,519	3.0
Overstated expenses	2,706	3.2
Large corporations (assets $10 million or more)	15,845	18.7
Other [1]	329	0.4

[1] Consists of $164 million gap for fiduciaries and $165 million gap for unrelated business income of tax exempt organizations.

Note: Details may not add to totals due to rounding.

In contrast to the tax gap for individuals, the corporate tax gap for 1987 (shown in Table 1) is divided into only a few components because sufficient data do not exist to prepare detailed estimates. In particular, data are not available to distinguish the portion of the total corporate tax gap that is due to unreported income from the portion that is due to overstated deductions or credits. Such data are available only for small corporations (i.e., corporations with assets under $10 million), which account for less than a quarter of the corporate tax gap. The internal financial controls established by larger corporations to help protect the interests of their stockholders make it difficult to hide corporate income from the tax agencies. As Table 1 shows, even for small corporations, less than half of the tax gap is estimated to be unreported income. The comparable percentage for individuals is 86 percent.

The corporate tax gap is mainly attributable to overstated expenses and credits rather than to underreported income or nonfiling. Particularly for large corporations, noncompliance usually involves aggressive tax planning that exploits the imprecise language of some tax law. Tax law may also be circumvented by using improper accounting practices, especially in sourcing incomes and expenses associated with multinational operations involving several geographic regions and/or business entities.

Trends

Table 2 presents estimated and projected tax gaps and voluntary compliance rates (VCRs) for selected years. The VCR measures the relationship between the total amount of tax that is voluntarily reported for any given year and the corresponding amount that should have been reported for that year.

The estimates of the total tax gap (in current dollars) increase from $28 billion for 1973 to $62 billion for 1979 to $85 billion for 1987. The gap is projected to increase to $114 billion for 1992. The estimated and projected growth of the tax gap is due in large part to the growth of income tax liabilities through real expansion of the economy and through inflation.

Changes in voluntary compliance, however, also exert an important influence on the trend in the individual tax gap. Corporate compliance data over time are quite limited. Consequently, in estimating and projecting the corporate tax gap, essentially one composite VCR was used to represent corporate compliance for all years.

The growth rate in the individual gap is fairly rapid from 1973 to 1979, but much slower from 1979 to 1982. These trends reflect changes in the VCR for individuals--which decreased from 84.6 percent in 1973 to 81.8 percent in 1979, and then increased to 83.7 percent in 1982. From 1982 to 1986, the combined influence of real economic growth and inflation dominate the trends in both individual and corporate tax gaps.

Table 2. Gross Tax Gaps and Voluntary Compliance Rates, Selected Tax Years 1973-1992

	1973	1976	1979	1982	1985	1986	1987	1988	1992
Total tax gap[1] (in $ billions)	**28.4**	**40.7**	**61.7**	**62.6**	**87.8**	**95.0**	**84.9**	**87.1**	**113.7**
Individuals	19.7	29.6	46.8	51.9	73.3	79.3	63.5	64.3	82.6
Filers	17.9	26.8	42.3	46.2	65.5	71.2	56.3	56.9	72.4
Understated income	15.4	24.6	36.4	38.1	54.6	60.0	48.3	48.5	62.8
Overstated deductions	2.4	2.0	4.7	6.5	8.6	8.9	6.0	6.1	6.8
Overstated credits	-0.1	-0.3	0.6	0.9	1.2	1.3	0.9	1.1	1.3
Math errors	0.2	0.2	0.5	0.7	1.0	1.0	1.0	1.1	1.5
Nonfilers	1.8	2.8	4.5	5.7	7.8	8.1	7.2	7.3	10.2
Corporations [2]	8.8	11.1	15.0	10.7	14.4	15.6	21.4	22.8	31.1
Total Voluntary Compliance Rate (percent)	**83.7**	**82.4**	**81.7**	**83.4**	**81.6**	**81.1**	**83.2**	**83.6**	**84.2**
Individuals	84.6	82.6	81.8	83.7	81.6	81.0	83.5	84.0	84.9
Corporations [2]	81.3	81.6	81.3	81.8	81.7	81.7	82.5	82.4	82.5

[1] If the tax gap were calculated on the basis of additional tax that would be assessed after all appeals, rather than additional tax that would be recommended, the results would have been as follows (in $ billions):

	1973	1976	1979	1982	1985	1986	1987	1988	1992
Individuals	17.5	26.3	41.4	46.3	64.8	70.1	56.1	56.8	73.1
Corporations	6.2	7.8	10.6	7.6	10.7	11.0	15.1	16.0	21.9
Total	23.7	34.2	52.0	53.9	75.5	81.1	76.2	72.8	95.0

[2] Includes the tax gaps for fiduciaries and unrelated business income tax of tax-exempt organizations.

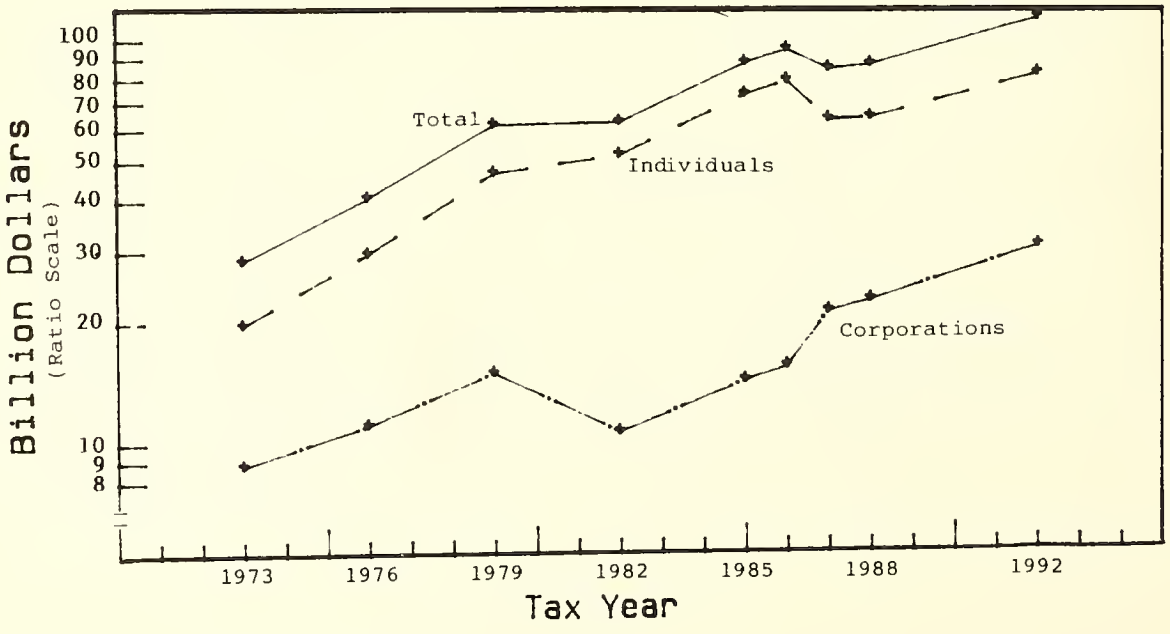
From 1986 to 1988, the Tax Reform Act of 1986 (TRA) causes the individual gap to decline and the corporation gap to increase even as economic factors continue to exert their normal influences on the tax gap.

None of the trend changes after 1982 can be attributed to changes in compliance. This is because the data needed to determine improvements or declines in voluntary compliance do not exist. The most recent year for which IRS has data from the Taxpayer Compliance Measurement Program (TCMP) for individuals is 1982. Consequently, for years after 1982, we assumed that the voluntary reporting percentage (VRP) for each source of income, such as sole proprietor income or wage income, remained constant. Similarly, after 1982, the reporting percentage for each deduction, exemption, adjustment or credit claimed is also assumed to remain constant.

Even though the reporting percentage for every individual income source and every subtraction from individual income or tax is held constant, the overall VCR for the individual income tax may fluctuate. This is because the relative weights of the various income and subtraction items, which contribute to the overall noncompliance rate, change over time in response to changing economic conditions. We know that some types of income are not reported as well as others. Consequently, if, in response to changing economic conditions, the relative importance of the more poorly reported types (e.g., proprietor income) increases, the VCRs for total individual income for those years decline. For example, the individual VCR declined from 83.7 percent in 1982, a recession year, to 81.6 percent in 1985, a year of expansion.

As the figure below shows, the combined influence of a prosperous period, which enlarged the tax base, and a decline in the VCR accelerated the growth rate of the individual tax gap from 1982 to 1985. The drop in the individual tax gap from $79.3 billion in 1986 to $63.5 billion in 1987 is primarily due to tax reform. This new law lowered marginal tax rates and repealed or limited many deductions from taxable income, thereby reducing the possibility for taxpayers to overstate these deductions.

Gross Tax Gap, Selected Years 1973-1992



As mentioned above, in estimating and projecting the total corporate tax gap, for the most part one composite VCR was used to represent the corporate sector's compliance behavior for all years. The decline in the corporate gap from $15.0 billion in 1979 to $10.7 billion in 1982 reflects a drop in corporate tax liabilities due to the two back-to-back recessions in 1980 and 1981 to 1982, in addition to the tax cuts contained in the Economic Recovery Tax Act of 1981. The increase in the corporate tax gap, from an estimated $15.6 billion in 1986 to an estimated $21.4 billion in 1987, is attributable to the new law enacted in 1986 and to higher corporate profits, which together increased corporation tax liabilities for 1987.

TRA had a minor impact on the rate of change in the total tax gap from 1987 to 1988. After 1988, the increases in the individual and corporate tax gap estimates reflect little more than projected increases in tax (liabilities) of individuals and corporations.

Effects of Recent Tax Laws

The widespread publicity given in recent years to problems of tax evasion culminated in a series of remedial measures. Among these are the compliance provisions of the Tax Equity and Fiscal Responsibility Act (TEFRA) of 1982, the Interest and Dividend Tax Compliance Act of 1983, the Deficit Reduction Act of 1984, and the TRA of 1986. These provisions taken together have enhanced IRS capabilities to detect and correct noncompliance with income tax laws.

As a result of the above legislation, brokers and barter exchanges must file information returns on their customers' stock sales, large food and beverage establishments must allocate and report tips their employees receive equal to 8 percent of their sales, state and local governments must file information reports on the tax refunds they issue, and alimony payers must report the names and taxpayer identification numbers of persons receiving the alimony payments. Information reporting also expanded to include real estate transactions, direct sales, sales of precious metals, and deductions individuals claim for mortgage interest payments. Receivers of charitable contributions in kind must now report on the disposal value of contributions initially valued at $5,000 or more. Moreover, individuals must report the Social Security numbers of all their dependents who are age five or older.

Although TEFRA's withholding provisions on interest and dividends were repealed before they took effect, backup withholding reinforced the interest and dividend information reporting system. Greater penalties for filers of inadequate information returns and for individuals who substantially understate their liabilities should help to contain noncompliant behavior, although it is not feasible to estimate what impact these penalties will have on the tax gap. The main thrust of the Tax Reform Act of 1986 was to reduce marginal tax rates and, at the same time, broaden the tax base to make the overall effect of reform revenue neutral. Because the tax value of every dollar of unreported

income or overstated deduction depends on the marginal tax rate, however, tax reform automatically reduced the individual tax gap. In addition, by lowering tax liabilities for individuals and raising them for corporations, tax reform shifted some of the gap from the household to the corporate sector.

IRS gross tax gap estimates do not reflect those effects, mostly behavioral ones, of the law which are difficult to quantify. For example, it is possible that compliance may improve in response to the lowered individual and corporate marginal tax rates. On the other hand, the extensive changes in the law may cause some initial confusion, which could cause compliance to deteriorate temporarily. Another unquantifiable factor is the extent to which some of the tax gap may shift from the corporate to the household sector as small corporations reorganize as proprietorships and partnerships. Such a shift may be expected because TRA lowered most individual marginal tax rates to less than 34 percent, the new maximum rate for corporations. Before TRA, high income individuals were taxed at 50 percent on their marginal income, which was higher than the maximum corporate tax rate of 46 percent.

Summary

The experience of the past 15 years demonstrates that the individual voluntary compliance rate (VCR) decreased from 1973 to 1979 and increased from 1979 to 1982. The tax gap responds both to business conditions and to changes in individuals' propensity to comply with tax law. The effect of business conditions is demonstrated by the approximately 40 percent increase in the individual gap from 1982 to 1985--a period in which the voluntary reporting percentage for each income and deduction item was assumed to remain constant. From 1986 to 1987, the 20 percent drop in the individual gap and the almost 40 percent increase in the corporate gap dramatize how changes in law can have a large impact on the tax gap.

Tax gap estimation is not a precise science. As new information becomes available, and as new studies and improved methods shed more light on the data, our conceptions of the size, composition of, and trends in the tax gap may change.

Notes and References

1. See, for example, William Batt, "The Underground Economy: What Is It? How Big Is It? And How Is It Measured?," **Manhattan College Journal of Business**, Fall 1985, pp. 5-10, Riverdale, New York; **The Underground Economy in the United States and Abroad**, Ed. by Vito Tanzi, Lexington Massachusetts and Toronto: Lexington Books, D.C. Heath and Company, 1982, pp.64, 163, 181, and 233; Edgar L. Feige, "How Big Is the Irregular Economy?" **Challenge**, Nov/Dec 1979, pp. 5-13; Gutmann, Peter M. "Off the Books" **Across The Board**, August 1978, pp. 8-14.

2. For a description of the activities covered by the term "underground economy," see Carol S. Carson, "The Underground Economy: An Introduction," **Survey of Current Business**, Bureau of Economic Analysis, May 1984.

3. Actually, about $0.3 billion of the $21.4 billion "corporate" tax gap is due to underreported taxes on fiduciary income and unrelated business income of tax exempt organizations.

4. The net income of a qualified small business corporation (defined in section 1371 of the Code), whether or not distributed, is taxed as ordinary income through each stockholder. Therefore, it is quite similar to partnership income for tax purposes.

Trends in First and Second Extensions of Time to File

by
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This article examines the phenomenal growth in the number of applications for first and second extensions of time to file an individual tax return that have been received by the IRS. The ratio of first and second extensions to total individual returns filed follows this same high growth pattern. The growth trend in first and second extensions is projected to continue into the future, with first extensions growing much faster than second extensions. The growth in the number of first extensions has been accompanied by a drop in the percentage of total individual returns filed during the first four months of the year.

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Background

Before the 1972 filing season, the Internal Revenue Service did not grant any automatic extensions of time to file an individual tax return. An individual who needed extra time to file their tax return could apply for an extension with a Form 2688 (Application for Additional Extension of Time To File U.S. Individual Income Tax Return). However, a person who filed a Form 2688 still had to pay any taxes they owed by the mid-April deadline, or they were subjected to penalty and interest charges.

In 1971 the tax law was changed to grant an automatic two month extension of time to file an individual tax return to anyone who filed the new tax form, Form 4868 (Application for Automatic Extension of Time To File U.S. Individual Income Tax Return), also referred to in this paper as a first extension. Although individuals could receive an automatic extension, they still had to pay any taxes they owed by the mid-April deadline. In 1982 the tax law was amended again to increase the automatic extension to four months.

After the introduction of the automatic extension, Form 2688 was not eliminated. Instead, Form 2688 is used as a request for additional time to file an individual tax return after the automatic extension period has expired. This form is now commonly referred to as a second extension of time to file, and is not automatic. An individual must supply a valid explanation to be granted a second extension of time to file. Some examples of valid explanations used and accepted by the Service include: illness or death in the individual's family, illness or death to the individual's tax preparer, lateness in receiving financial information, and personal finances tied-up in bankruptcy proceedings. Data on both the first and second extensions for the 1976-1986 period are shown in Tables 1 and 2.

Table 1. Number of Forms 4868, Forms 2688, and Total Individual 1040 Series Returns Filed, 1976-1986

Filing Year	Form 4868	Form 2688	Total Individual 1040 Series
1976	1,119,704	156,942	82,795,008
1977	1,454,854	433,529	85,623,810
1978	1,681,375	519,786	87,363,067
1979	2,108,948	678,252	90,727,115
1980	2,380,135	725,699	93,052,312
1981	2,628,678	1,174,970	94,013,291
1982	2,861,270	1,344,130	95,419,482
1983	3,266,856	792,360	95,541,338
1984	3,744,268	946,087	96,496,863
1985	4,040,428	1,135,366	99,528,919
1986	4,620,652	1,328,954	101,750,915

Table 2. Forms 4868 and Forms 2688 as a Percentage of Total individual Returns Filed, 1976-1986

Filing Year	Forms 4868 as a Percentage of Individual Returns	Forms 2688 as a Percentage of Individual Returns
1976	1.35	0.19
1977	1.70	0.51
1978	1.92	0.59
1979	2.32	0.75
1980	2.56	0.78
1981	2.80	1.25
1982	3.00	1.41
1983	3.42	0.83
1984	3.88	0.98
1985	4.06	1.14
1986	4.54	1.31

First Extensions--Forms 4868

The number of Forms 4868 filed has increased from 1.1 million in 1976 to 4.6 million in 1986--an average annual growth rate (compounded) of 13 percent. Figure 1 shows that the growth has been remarkably stable over this interval. The tax law change in 1982 did not appear to have an effect on the number of first extension applications filed.

Figure 1. Number of Forms 4868 Filed, 1976-1986

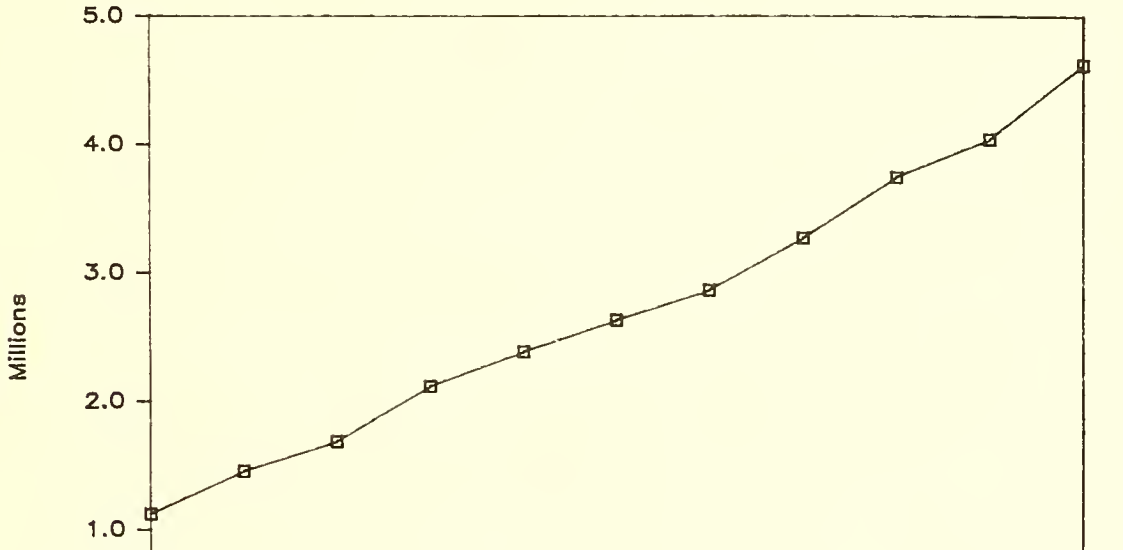
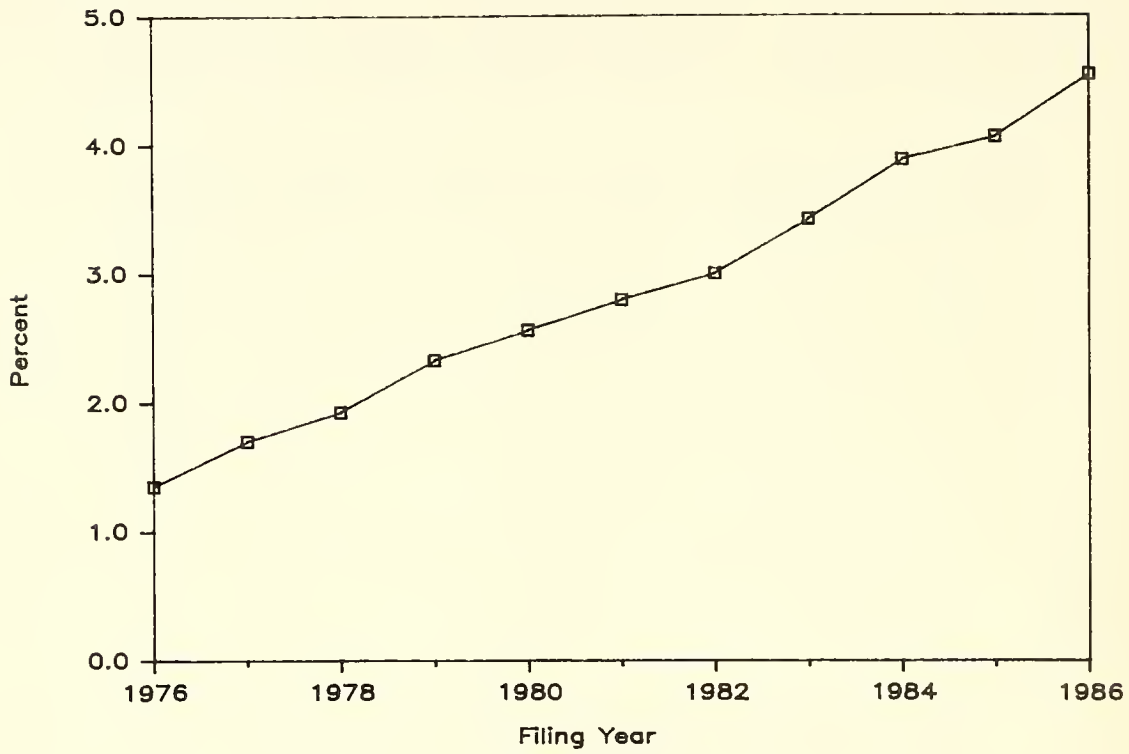


Figure 2 depicts the number of individuals requesting a first extension of time to file as a percent of the total number of individual tax returns filed (Forms 1040, 1040A, and 1040EZ). Since the number of individuals requesting first extensions has grown substantially faster than the total number of individual returns filed, this percentage has increased over the eleven year period. In filing year 1976, 1.35 percent of individuals filing returns requested extensions; by 1986 the portion had grown to 4.54 percent. The growth in this percentage also reflects the decreasing proportion of total individual returns filed before the end of April.

Figure 2. Forms 4868 as a Percentage of Total Individual Returns Filed, 1976-1986



Second Extensions--Forms 2688

Between 1976 and 1986, the number of Forms 2688 increased from 157 thousand to 1.3 million (Figure 3). This represents an average annual growth rate of 21 percent--even greater than the growth rate for the first extensions. This growth in second extension applications occurred despite the tax law change in 1982 that increased the automatic first extension from two to four months. However, the tax law change did cause a temporary decline in the number of second extensions requested. Although it appears in Figure 3 that the growth rates from 1976 to 1982, and from 1983 to 1986 are similar, the actual calculated compounded annual growth rates are significantly different. From 1976 to 1982, the average annual growth rate was 36 percent; since 1983 the average annual growth rate has been 14 percent. By 1986 the number of second extension applications filed grew to about the same number as were filed in 1982--before the tax law change.

Figure 3. Number of Forms 2688 Filed, 1976-1986

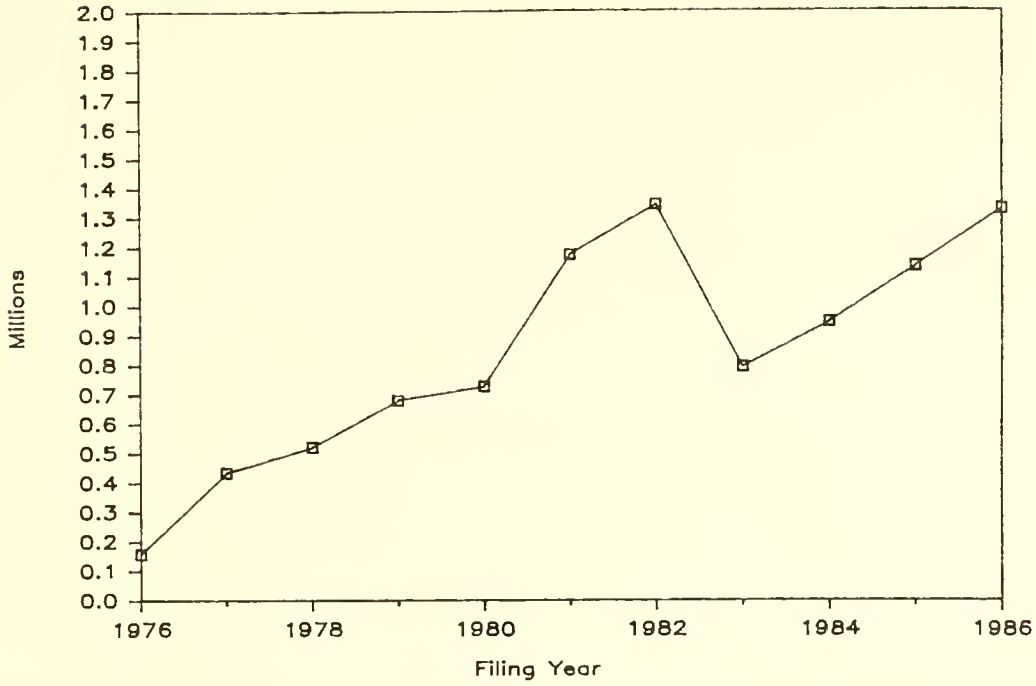
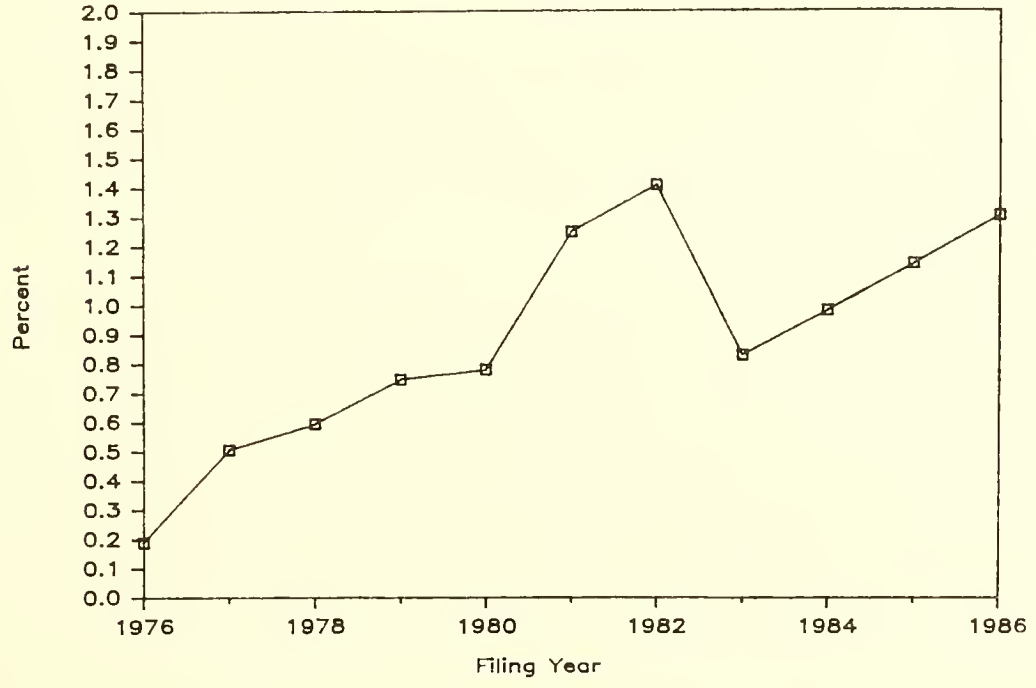


Figure 4 presents the number of Forms 2688 filed as a percentage of total individual returns filed (Forms 1040, 1040A, and 1040EZ). This increase in the percentage of individuals filing second extensions, along with the increase in the percentage of individuals filing first extensions, is a contributing factor to the observed trend of individuals filing their returns later and later in the filing year.

Figure 4. Forms 2688 as a Percentage of Total Individual Returns Filed, 1976-1986



The Increase in Extensions and the Trend Toward Later Filings

In filing year 1976, 96.0 percent of all individual returns were received in the service centers by the end of April (see Table 3). By 1986 this percentage had dropped to 91.4 percent--a decrease of 4.5 percentage points. Over this same period, the proportion of individual taxpayers requesting first extensions increased by 3.2 percentage points. The movement of these two series over the past eleven years reflects the increasing trend toward taxpayers filing later in the year. In fact, the percentage of individuals filing in August has increased from one quarter of a percent in 1976 to 1.6 percent in 1986 (see Table 3). The largest increase came between 1982 and 1983, reflecting the increase of the automatic extension from two to four months.

Table 3. Percent of Total Individuals Filing a Return in the First Four Months of the Year and in August, 1976-1986

Filing Year	First Four Months	August
1976	96.0%	0.24%
1977	94.6	0.44
1978	93.9	0.41
1979	93.6	0.41
1980	95.2	0.42
1981	94.1	0.49
1982	94.1	0.60
1983	93.3	1.33
1884	92.4	1.63
1985	91.3	1.57
1986	91.4	1.59

The IRS' liberal policy toward first and second extensions has resulted in an increasing percentage of filings after the April peak processing period. This trend toward later filings has benefited the Service by countering the "bottle neck" occurring at the service centers during the April peak. Tax practitioners have also benefited from the liberal extension policy by shifting some of their work load to after their peak tax season.

There is a general awareness of the processing problems associated with the April peak; solutions to the problem have been proposed for many years. Most of the proposals are based on some form of staggered filings of tax returns. Under these proposals, an individual would file their tax return either in the month of their birthday or in a month determined by their social security number. These proposals have been studied on several occasions--most recently by the Service's Research Division. The "Report on the Impact of Staggered Filing of Individual Returns on the Internal Revenue Service" concluded that the disadvantages of staggered filing outweigh the benefits of such a program. 1/ A staggered filing system would have adverse effects on the

Service's revenue-producing enforcement programs--such as the Information Returns (IRP) and the Stopfiler Programs (which detect income underreporters and nonfilers), and the Discriminant Function (DIF) Inventory (an inventory of returns filed ranked by their potential examination yield). The principal benefit of staggered filing would be reduced processing costs as a result of not having to hire and train seasonal employees during the April peak period.

A further disadvantage is that individual taxpayers are not enthusiastic about staggered filing. In the report on staggered filing cited above, 75 percent of the surveyed individuals thought that the proposal to stagger filing dates by the last digit of a taxpayer's social security number was either a bad idea or were indifferent to the proposal. Seventy percent of the individuals surveyed were also either neutral or negative toward staggered filing by birth month. Further, when asked to select a month that they would prefer to file their tax return, 74 percent of the surveyed taxpayers indicated that they would still file their return from January through April. Moreover, the tax practitioner community has not supported staggered filing. The Service's "Survey of Tax Practitioners and Advisers" showed that 60 percent of tax practitioners were not inclined toward a staggered filing program. 2/

Conclusion

Since filing year 1976, the percentage of individual returns received in the service centers by the end of April has decreased, and the number of filings of Form 4868 (first extension of time to file) and Form 2688 (second extension of time to file) have increased. Will these trends continue into the future? In IRS Document 6186 (Rev. 10-87), the Service projects that the number of Forms 4868 and Forms 2688 will grow at an average annual compounded rate of 6.6 percent and 3.8 percent, respectively, through 1994. With extensions growing faster than total individual returns filed, the ratio of first and second extensions to total individual returns will increase to 7.0 percent--up sharply from 4.5 percent in 1986. However, with the liberal policy of an automatic first extension of four months, only 1.6 percent of individual taxpayers are expected to request a second extension in 1994. This is only slightly above the 1.4 percent that did so in 1982 before the increase in the automatic first extension to four months.

Notes and References

1. **Report on the Impact of Staggered Filing of Individual Returns on the Internal Revenue Service**, Research Division, Office of the Assistant Commissioner (Planning, Finance and Research), Internal Revenue Service, January 1987.

2. **Survey of Tax Practitioners and Advisers**, Research Division, Office of the Assistant Commissioner (Planning, Finance and Research), Internal Revenue Service, June 1987.

Filing Patterns Associated with Individual Filers for 1987 Individual Income Tax Returns

by
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Certain assumptions have frequently been made about the filing patterns of individual tax returns. This article uses data from the Taxpayer Usage Study to examine whether these assumptions are valid for filing year 1987. One premise that was confirmed by our analysis was that taxpayers generally filed earlier if a refund was due and later if they owed money. However, surprisingly, we found that the average refund tends to increase across the filing period.

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Introduction

There have always been many general assumptions about the characteristics of taxpayers. As an example, a common one is that taxpayers file early in the filing period if a refund is due and late if they owe money. The purpose of this article is to present some of the patterns observed in the 1987 filing period to try to verify some of these assumptions. The Tax Reform Act of 1986 may alter these patterns somewhat. However, it is not our purpose to attempt to estimate what these changes will be but rather to provide a basis for later comparison with post Tax Reform Act of 1986 patterns.

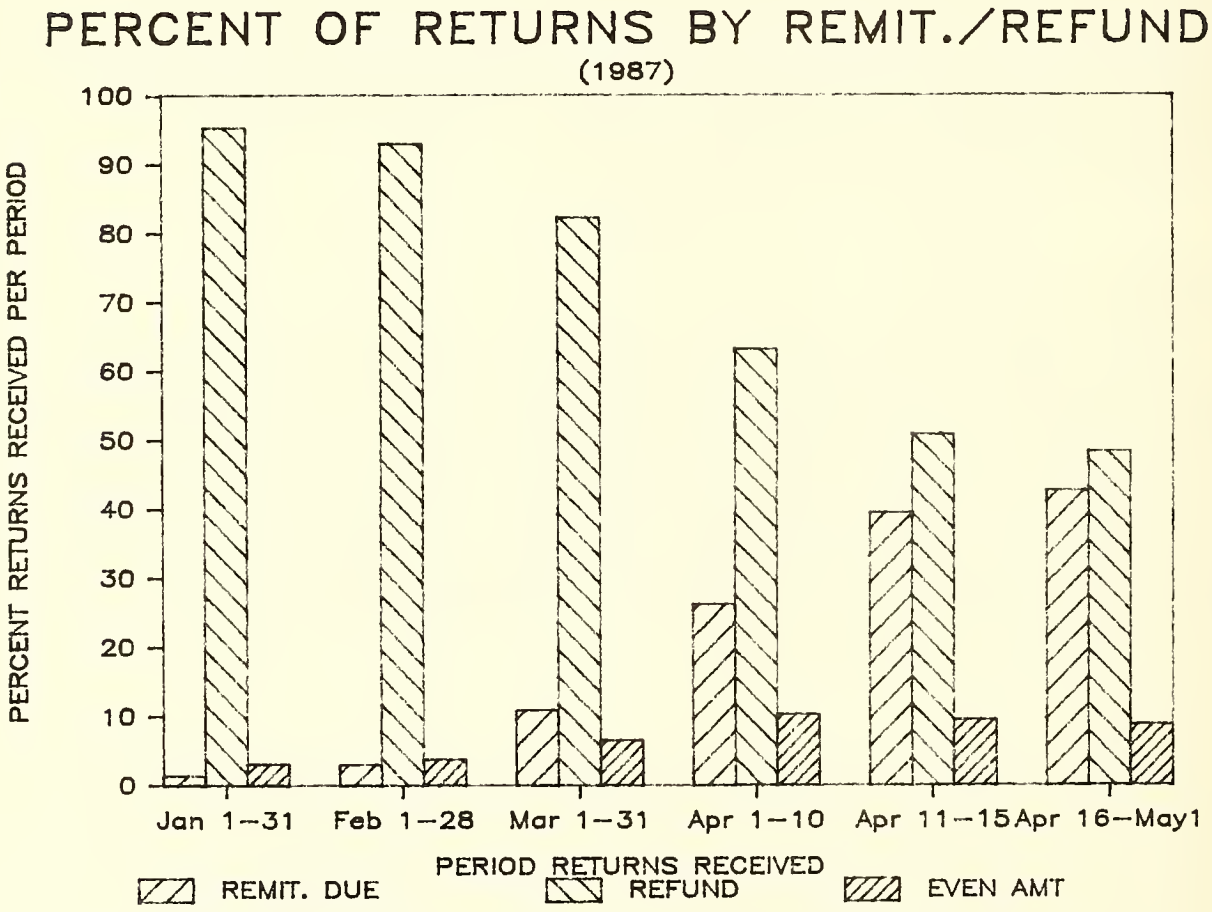
Methodology

The data base used in this analysis is the yearly Taxpayer Usage Study (TPUS) collected by the Statistics of Income Division. This sample is a random sample of individual Forms 1040, 1040A, and 1040EZ received in all service centers during the period January 1, 1987 to May 1, 1987. The approximate sampling rate was one return per 5,000 eligible returns. Six different intervals within the sampling period were examined: January 1 to 31, February 1 to 28, March 1 to 31, April 1 to 10, April 11 to 15, and April 16 to May 1. Returns were counted by the date they were received in the Service Center.

Filing Patterns by Refund or Remittance Due Returns

One premise of this article is that taxpayers who expect to receive a refund tend to file earlier than taxpayers who owe money. The data displayed in Figure 1 seem to confirm this contention. Early in the filing period, those taxpayers expecting a refund comprise the largest percentage of returns received. For example, in January, 95.4 percent of all individual returns are refund returns. The remaining 4.6 percent are either returns which have a remittance due or returns which have no amount due. By contrast, during the period of April 11 to 15, 50.9 percent of the returns filed are refund returns and the remaining 49.1 percent are remittance due or even amount returns.

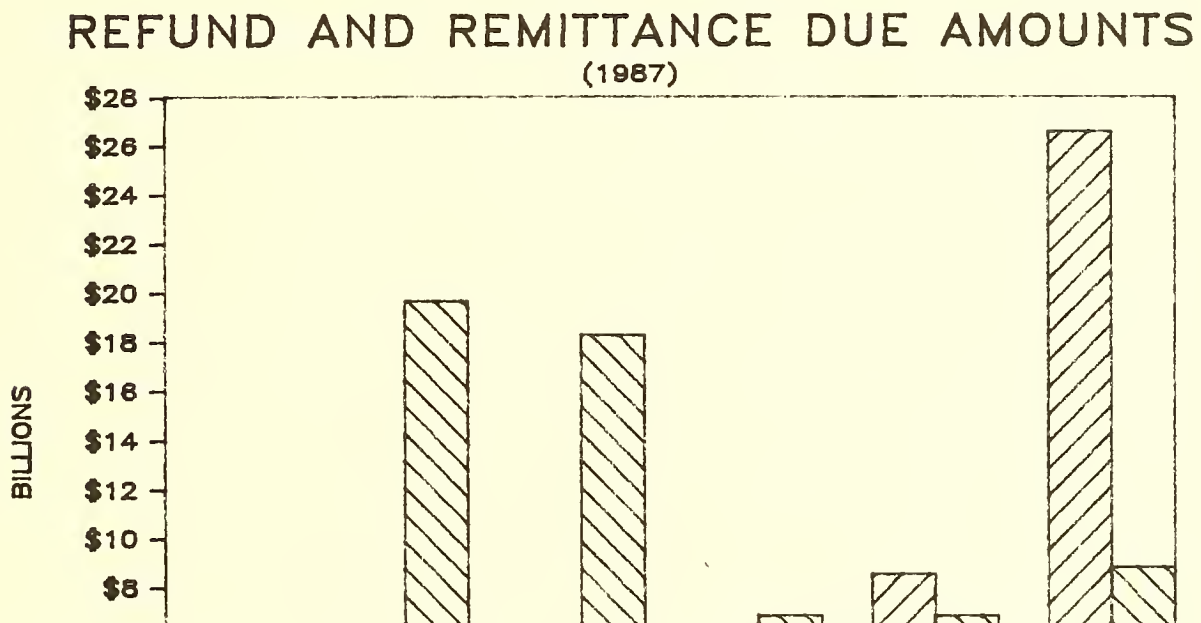
Figure 1.



This trend also holds when the total dollar amount of refunds or remittance due per period are considered (see Figure 2). In February, the service centers received returns which had a total of $960 million due. Returns totaling $20 billion in

refunds were received during the same period. On the other hand, during the interval April 11 to 15, returns with a total of $8.6 billion in remittance due and $6.9 billion in refunds were received. During April 16 to May 1 the comparison is even more marked, with $27 billion in remittance due and $8.9 billion in refunds. Clearly, taxpayers tend to file refund returns early in the filing season and balance due returns relatively late in the filing season.

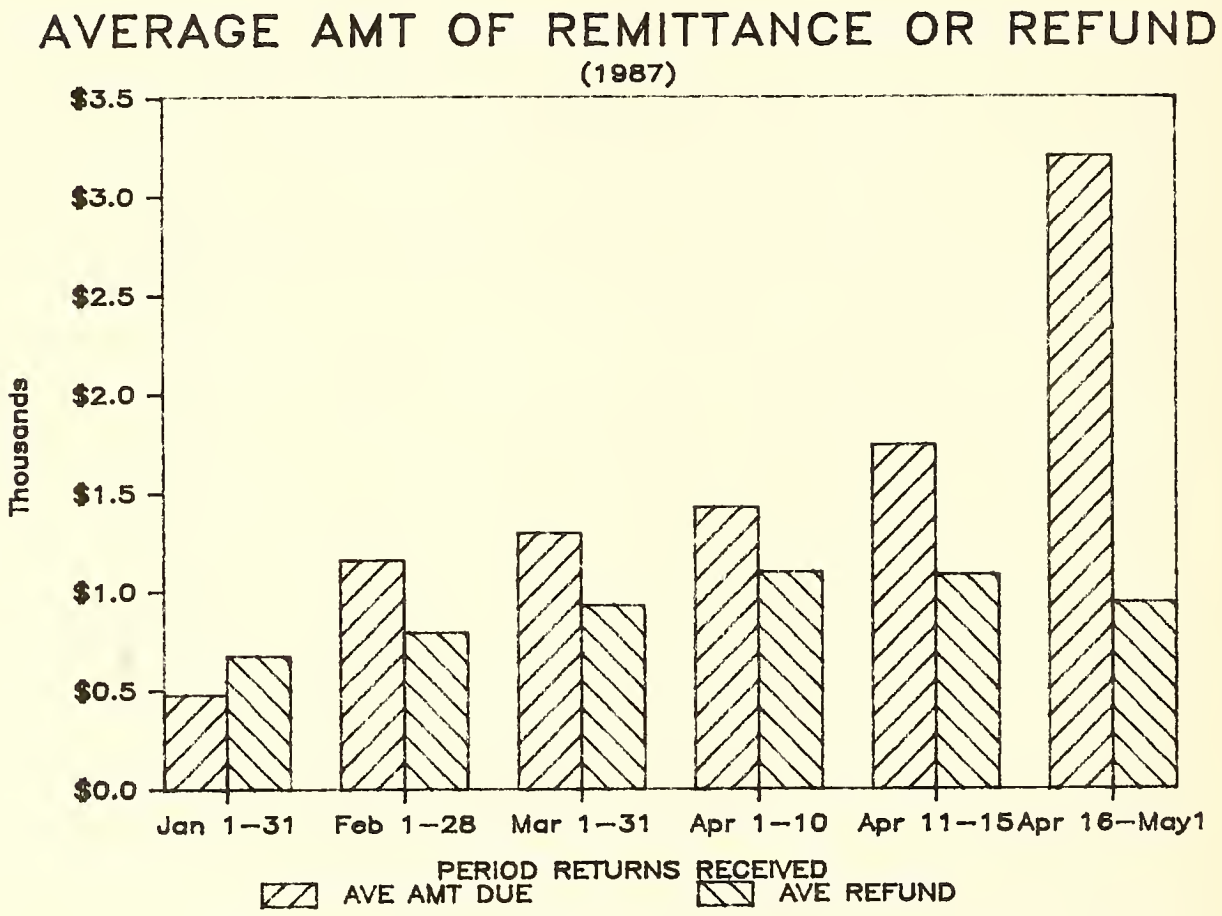
Figure 2.



Another premise is that taxpayers expecting large refunds would file very early in the filing season while taxpayers owing large amounts would file close to the end of the filing period. Surprisingly, the average refund per period tends to increase across the filing period as shown in Figure 3. Taxpayers filing for refunds during February 1 to 25 received refunds averaging $800, while taxpayers filing for refunds during the April 11 to 15 and April 16 to May 1 intervals received refunds averaging $1,100 and $900, respectively. However, the average amount of

remittance due per period increased substantially across the filing period. Not surprisingly, the more the taxpayers owed, the later they waited to file. Taxpayers with a very large remittance due waited until the last possible date to file, since the average remittance due for returns received after April 15 is almost twice that of those received the week prior to April 16.

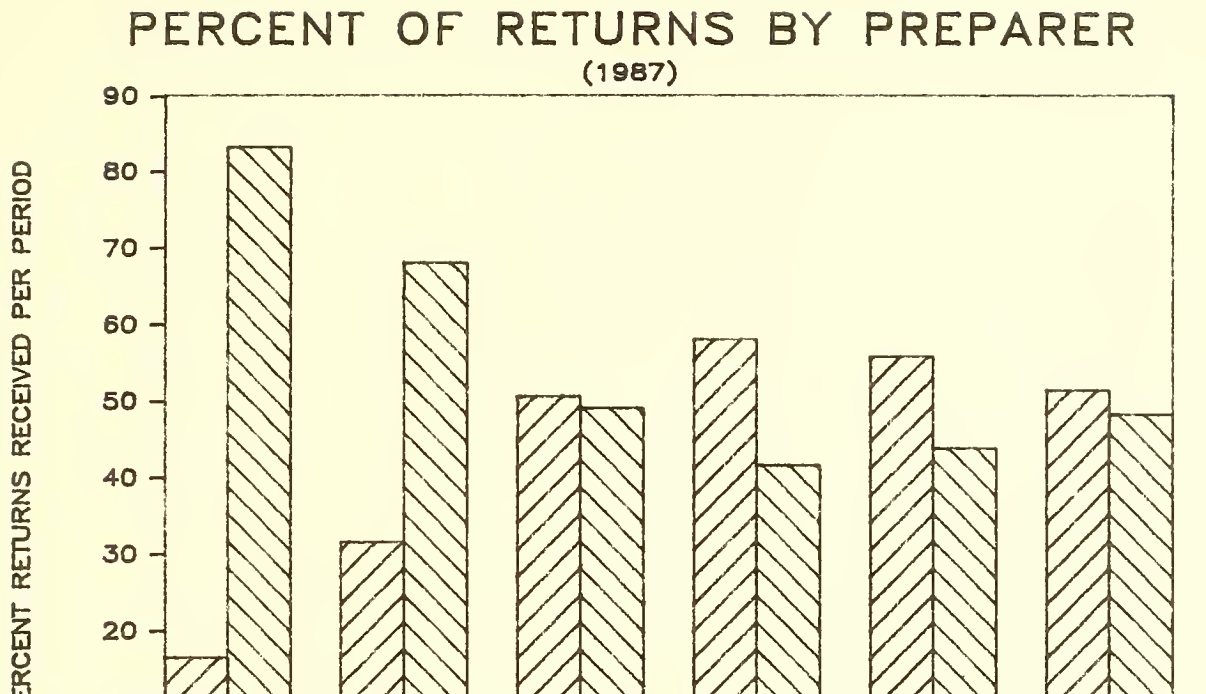
Figure 3.



Filing Patterns by Preparer

Another premise was that returns by paid preparers would be received later than the self-prepared returns. Figure 4 shows that this pattern is especially apparent early in the filing period. For example, in January, 83.4 percent of returns filed were self-prepared. By the peak filing period of April 11 to 15, 44.0 percent of the returns were self-prepared and 56.0 percent were paid preparer.

Figure 4.

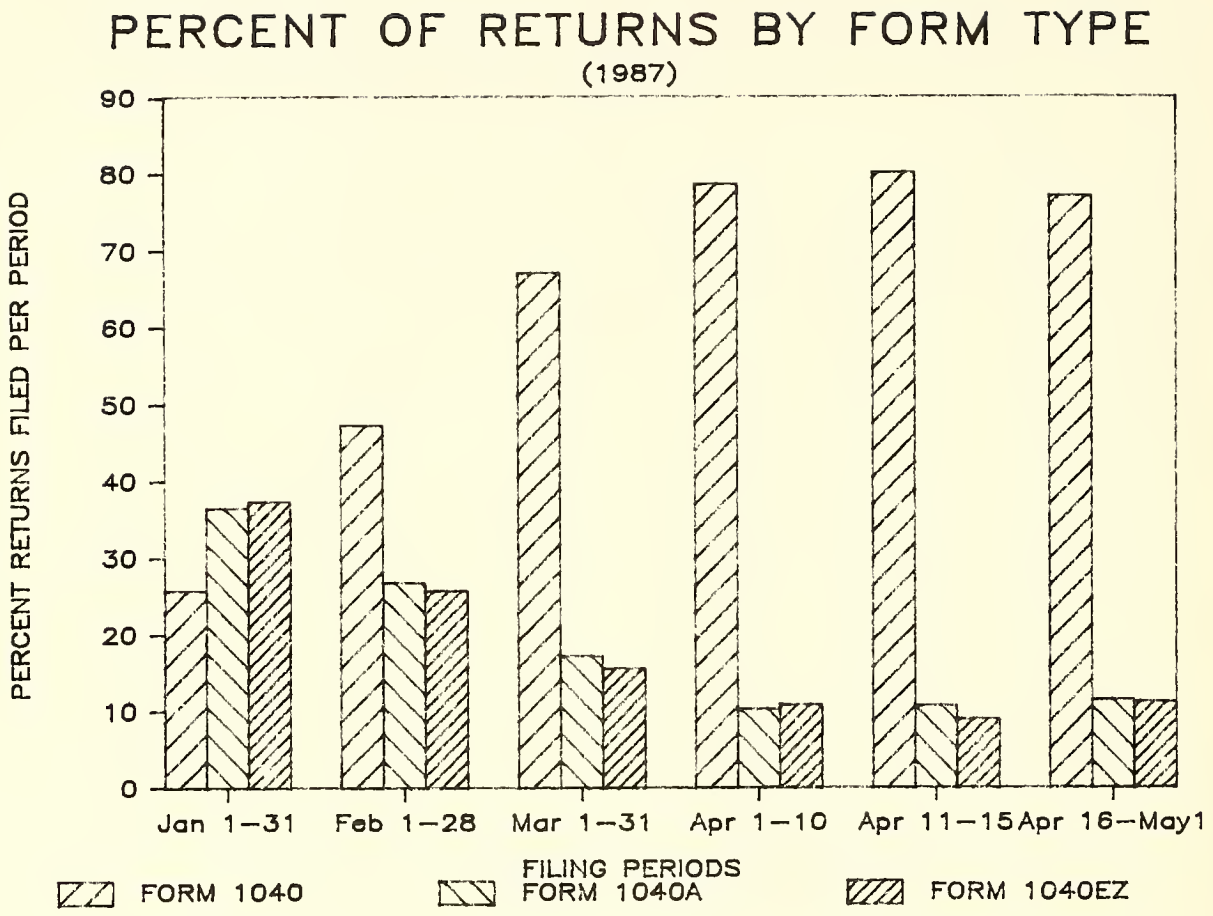


Filing Patterns by Form Type (1040, 1040A, 1040EZ)

The premise considered in this section is that the easier it is to fill out a tax form, the earlier a taxpayer will tend to file. The data in Figure 5 appear to support this premise. The percentage of Forms 1040 filed within each period increases steadily from 26 percent in January to 80 percent during April 11 to 15. In contrast, the proportion of both Forms 1040A and Forms 1040EZ filed within each period decreases from slightly more than 35 percent in January to about 10 percent during April 11 to 15.

One interesting result is that 2.2 million Forms 1040EZ (2.25 percent of all return received between January 1 and May 1) were received **after** April 15.

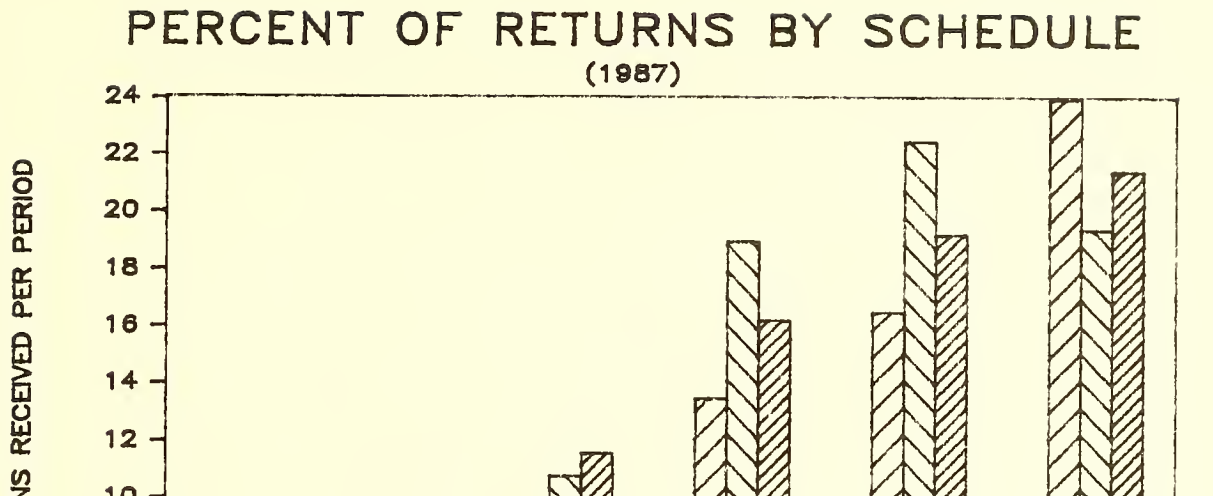
Figure 5.



Filing Patterns by Schedule

The premise examined in this section is that individual taxpayers filing returns with schedules attached would take longer to file. Returns were broken down by whether Schedule C (Sole Proprietorship), Schedule D (Capital Gains and Losses), Schedule E (Supplemental Income), or Schedule F (Farm Income and Expenses) were attached. The percentage of returns filed with Schedules C, D, and E attached increased over the filing period. The percentage of returns filed with attached Schedule F remained relatively constant. Schedules C, D, and E exhibit patterns that are similar to the pattern of the Form 1040 usage.

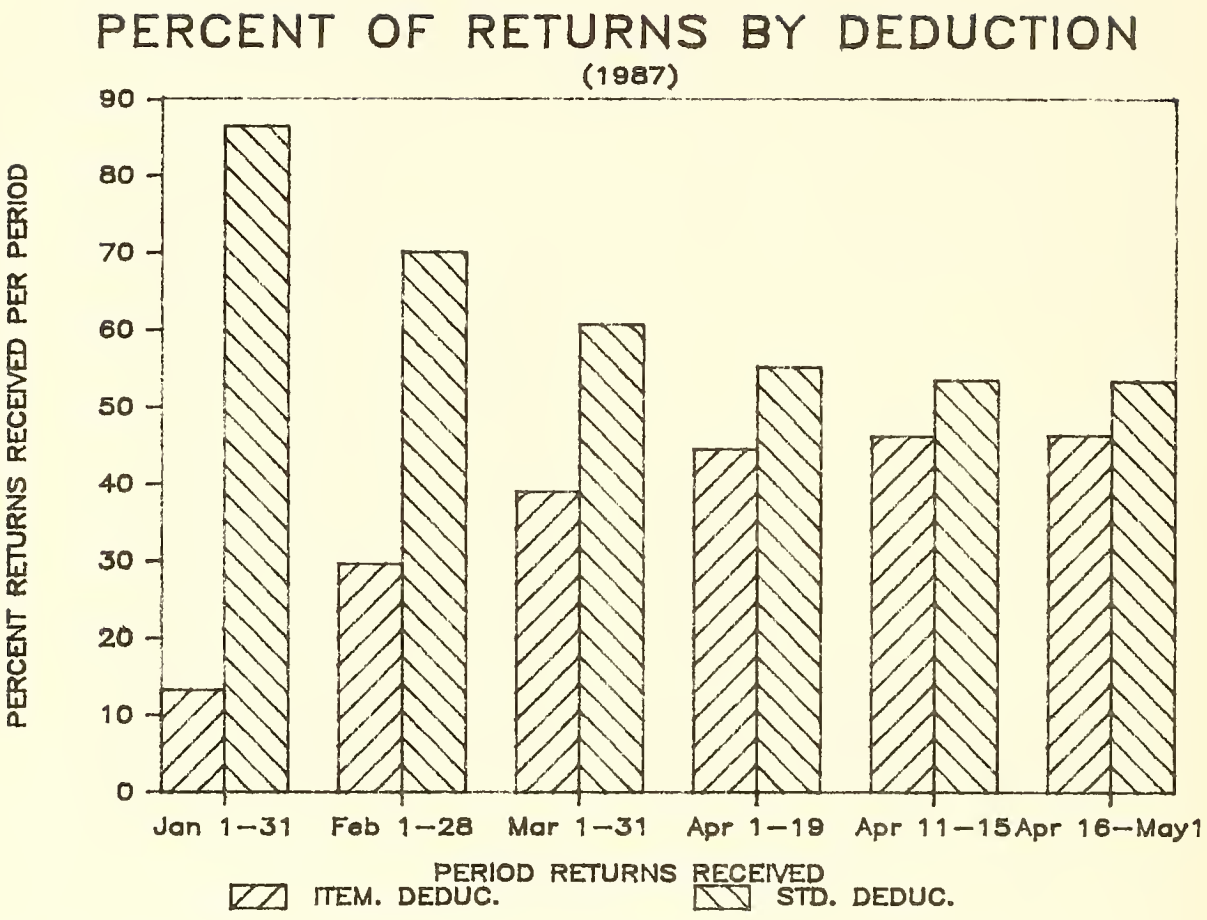
Figure 6.



Filing Patterns by Deduction Category

Individual returns were analyzed to see if returns with standard deductions were filed earlier than returns with itemized deductions, (see Figure 7). The percentage of returns claiming standard deductions was relatively high at the beginning of the filing period (86.6 percent in January) and tapered off (53.5 percent during April 16 to May 1). However, the percentage of returns claiming itemized deductions increased over the filing period, from 13.4 percent in January to 46.5 percent during April 16 to May 1.

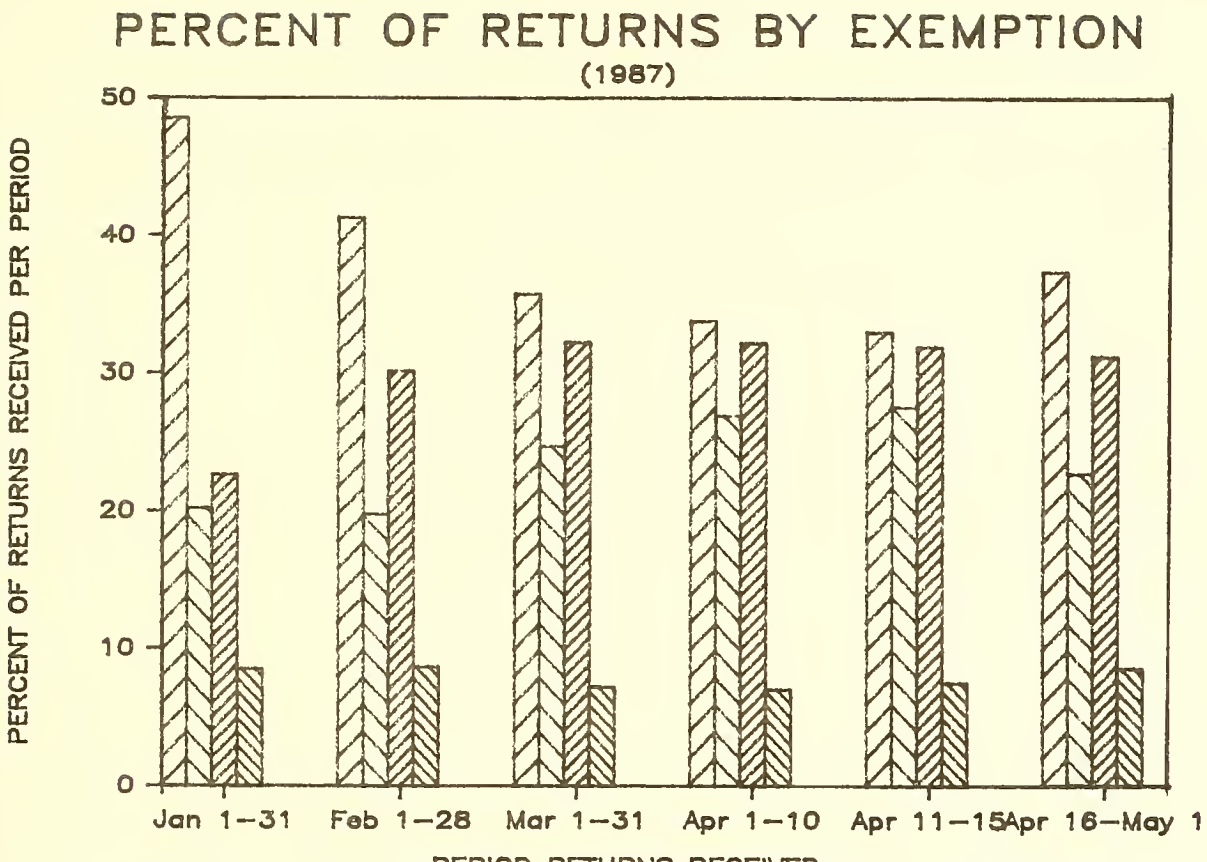
Figure 7.



Filing Patterns by Number of Exemptions

Our premise for this section was that taxpayers claiming only one exemption (i.e. no dependents or spouse claimed) would file earlier than taxpayers claiming two or more exemptions. This premise is supported by the data in Figure 8. There is a decrease across the filing period in the percentage of taxpayers per period who claim only one exemption. During January, nearly half of the returns filed claimed only one exemption, however, by April 11 to 15, this figure declined to 33 percent. In the very last period (April 16 to May 1), the percentage increases to 37 percent of the returns for that period. For taxpayers claiming two exemptions, the trend is the reverse. There is an increase from 20 percent of the returns in January, to 28 percent for the April 11 to 15 interval. During April 16 to May 1, returns with two exemptions drop to 23 percent. The three and four exemption category showed an increase in percentage of returns filed per period, from 22 percent in January to 33 percent in March. This category remains at 33 percent throughout the rest of the filing period. The five or more exemption category remains nearly constant across the entire filing period.

Figure 8.

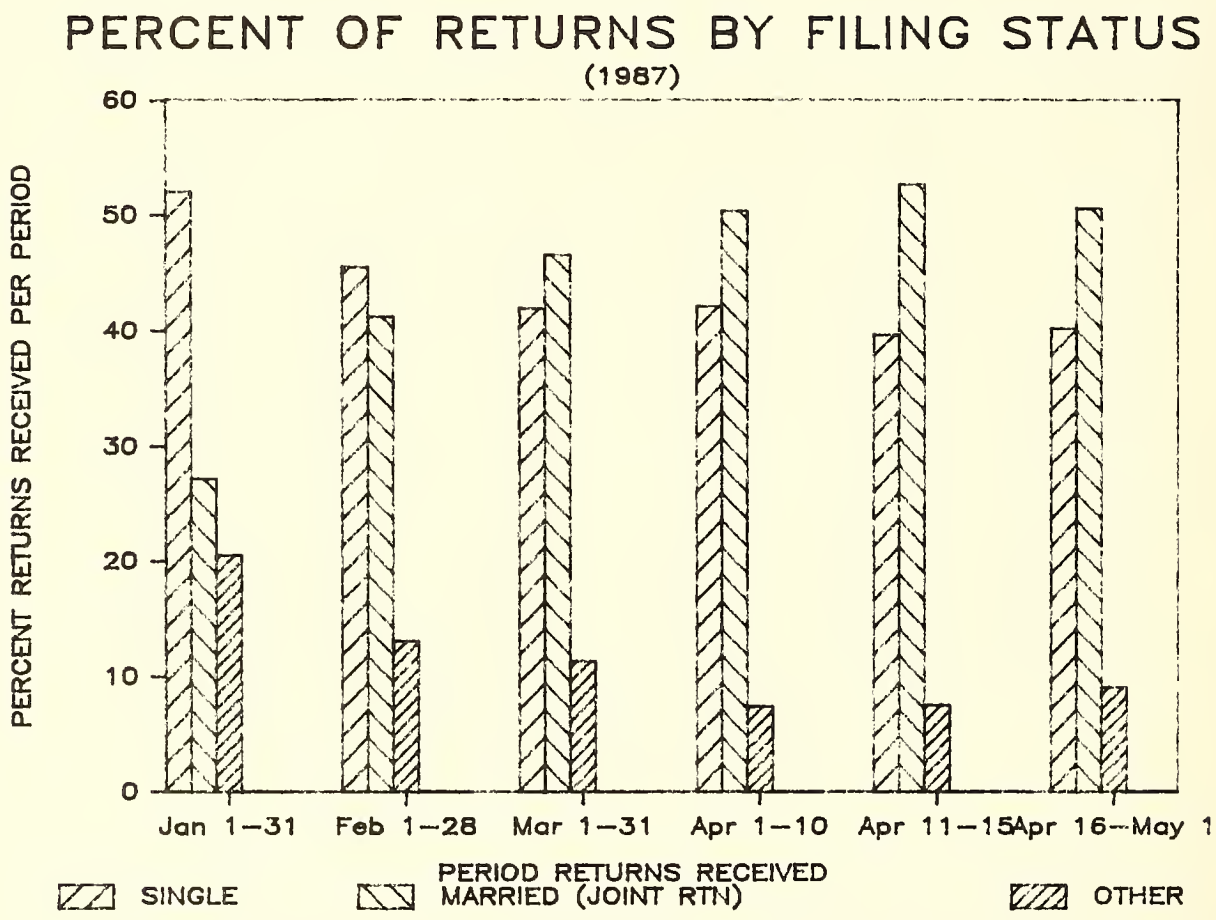


Filing Patterns by Filing Status

The premise examined in this section was that single filers would file earlier than those who are married filing a joint return, or any other category of filing status. The percentage of returns received per period by filing status is shown in Figure 9. The filing status categories included single filers, married filing a joint return and all other groups. At the beginning of the filing period, those filing as single comprised over 52 percent of the returns filed. (i.e. The single filers exhibit nearly the same filing pattern as the one exemption category in the preceding section.) As the filing season progresses, there is a gradual decrease in the percentage of single filer returns, until March when the percentage of single filers levels off and remains constant for the remainder of the filing period. For married filing a joint return, the percentage of returns filed per period increases from 27 percent in January to 46 percent in March and remains nearly constant for the remainder of the filing period. The returns in the remaining

filing status categories decline from 20 percent in January to 8 percent during April 1 to 10 and then remain at that level for the remainder of the filing period.

Figure 9.



Conclusions

Taxpayers receiving refunds filed earlier in the period than those taxpayers owing taxes. However, this basic trend was influenced by the complexity of the return (with schedules attached), whether the returns were self-prepared or prepared by a paid preparer, the number of exemptions claimed, and the filing status of the taxpayer.

Trends in the Receipt of Refund Returns

by
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This article focuses on the remarkable stability of refunds as a percent of total individual returns over time. It investigates the powerful preference taxpayers have for receiving refunds and relates any deviation from this tendency to "disturbances" caused by changes in tax laws.

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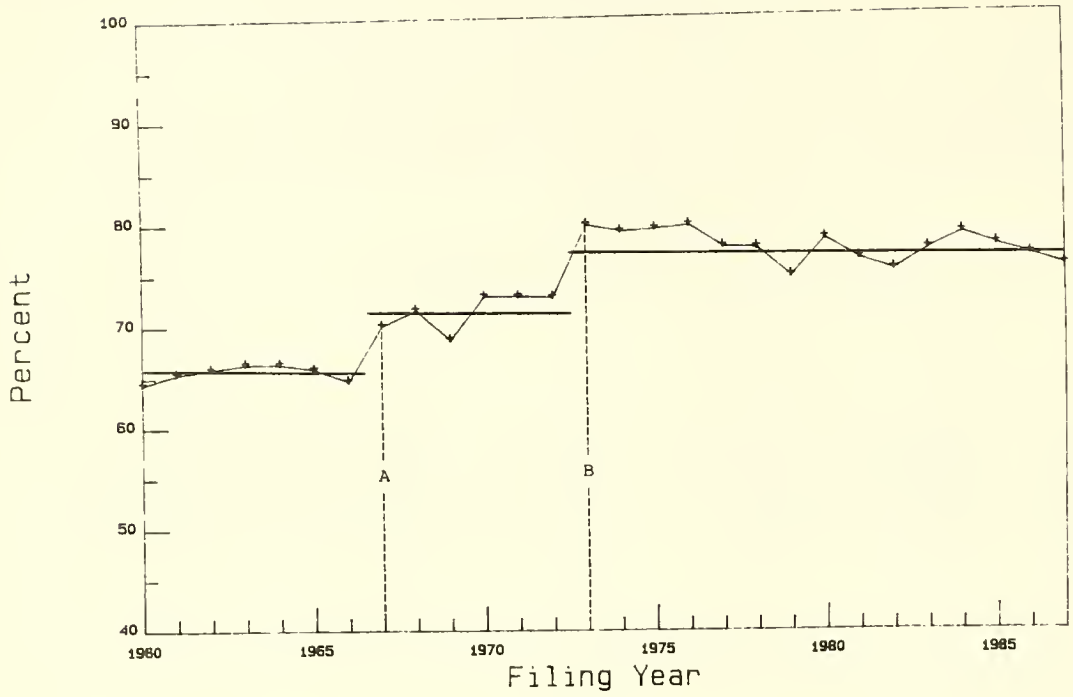
The Relationship between Refunds and Total Returns

Although the number of taxpayers receiving refunds has been generally rising over time in absolute terms, refunds as a percent of total individual returns filed have remained relatively constant since 1973 (see Figure 1). On average, refunds comprised 77 percent of total individual returns filed annually between 1973 and 1987. The highest ratio was 80 percent in 1973, and the lowest ratio was 75 percent in 1979.

This stability in the ratio of refunds to total individual returns is characteristic of filing patterns as far back as 1960, although the ratio has stabilized at three different levels during the 1960 to 1987 period. Figure 1 shows that from 1960 to 1966, the refund ratio averaged 66 percent, with little deviation. From 1967 to 1972, the average was 71 percent and from 1973 to 1987 it was 77 percent--with minor deviations. The upward shifts in the refund ratios in filing years 1967 and 1973 are a consequence of two legislative acts that introduced major structural changes in the withholding system. These two acts, which are discussed in more detail below, seem to have increased the percentage of refund returns by increasing the opportunities for taxpayers to over-withhold.

Figure 1. Refunds as a Percent of Total Individual Returns Filed (1960-1987)



Shifts in the Refund Ratio

A. Tax Adjustment Act of 1966

A major provision of the Tax Adjustment Act of 1966 initiated graduated withholding rates, which were designed to bring the amount withheld more in line with the ultimate tax obligation. This change, which first took effect in the 1967 filing year (see A on Figure 1), made it possible for taxpayers to be overwithheld on a regular basis. The number of refund returns increased 12.5 percent between 1966 and 1967, suggesting that many taxpayers, when given the choice, deliberately chose to be overwithheld.

B. Revenue Act of 1971

The Revenue Act of 1971, which became effective for tax year (TY) 1972 returns filed in 1973 (see B on Figure 1), also caused major changes in the withholding system. The principal changes were a new "special withholding allowance," to be treated as an exemption for withholding purposes; an increase in the standard deduction to 15 percent with a $2,000 limitation; and a liberalization of the rules for claiming additional withholding allowances based on itemized deductions. These changes were intended to provide taxpayers with the incentive to claim all possible withholding exemptions and allowances to which they were entitled. The net result, however, was a higher percentage of refund returns filed beginning in filing year 1973.

Short-Run Disturbances in the Refund Trend Line

Apart from these two general shifts, the number of refunds as a percent of total individual returns filed has remained relatively constant--with only minor fluctuations. The deviations (e.g., the dips in 1979 and 1982) in what otherwise would be three nearly flat trend lines in Figure 1, might be explained by the taxpayers' temporary lack of knowledge following tax law changes.

During the 1960 to 1987 period, there were four major tax law changes which had a noticeable short-run (as opposed to structural) impact on the number of refunds and the ratio of refunds to the total number of individual returns filed. In general, these changes in the tax laws caused a slight decline or pause in the growth of refunds in absolute terms.

A possible explanation for these "pauses" lies in taxpayers' delayed reaction to tax law changes. Evidence suggests that the majority of taxpayers do not analyze the future effects of a major tax reform.1/ Rather, they maintain their current withholding levels, exemptions, etc. through the first year of a new tax law's implementation. Then, after the effects of tax reform on their filing status become clear, they adjust their withholding in order to return to their previous refund condition. Such an argument is supported by the three flat refund trend lines from 1960 to 1987. That is, associated with each of the three levels, there is a constant percentage of taxpayers intentionally establishing a refund condition. As tax laws change, taxpayers readjust to maintain their refund status, though after a one year "reaction lag."

Listed below are major tax reforms associated with short-run disturbances in the refund return trend. They are indexed by letter, corresponding to those noted on Figure 2.

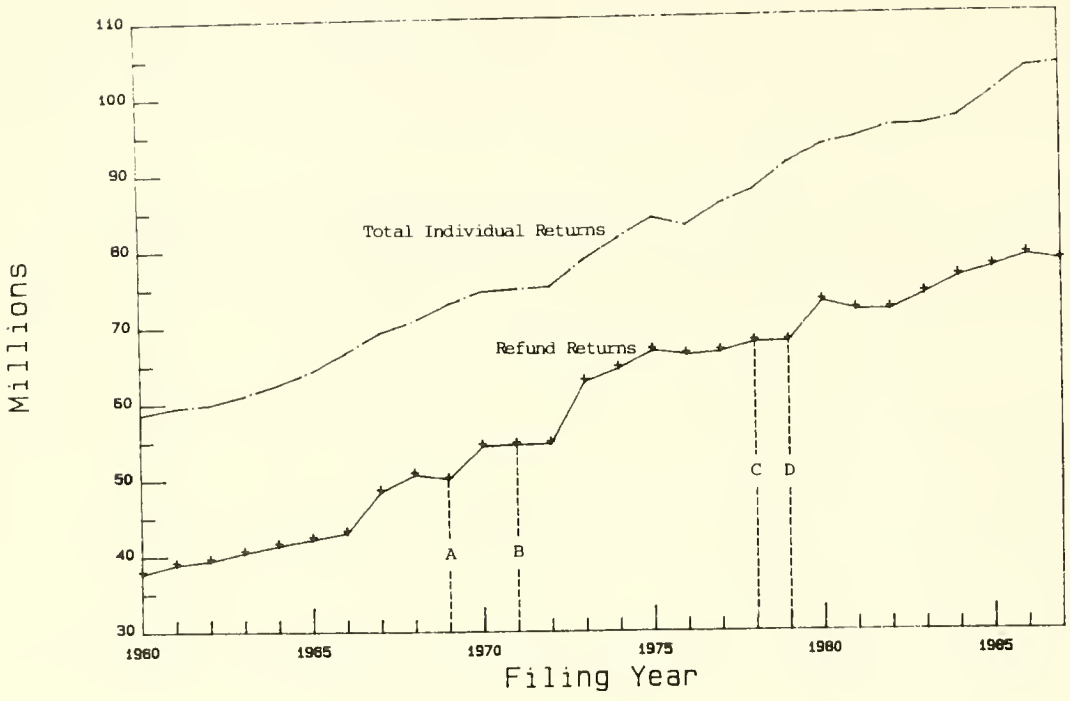
A. Surcharge of 1968

In TY 1968, a surcharge on income tax before credits was imposed. However, withholding did not change. Therefore, the surcharge absorbed some taxpayers' entire refund, placing them in a balance due return category. Since the TY 1968 returns were filed in 1969, this law change appears to have produced the drop in refunds for processing year 1969 (see A on Figure 2). By 1970, however, taxpayer readjustment is evident. Moreover, special provisions of the act further increased the opportunity for refund returns in 1970, by increasing the amount of tax credits that could be claimed. This caused an extra sharp increase in refund returns in 1970.

B. Tax Reform Act of 1969

The Tax Reform Act of 1969 took many low-income taxpayers off the filing rolls and also lowered the tax liability of all those who had to file. The standard deduction was increased for TY 1969, and still further for TY 1972. Also, to help remove the lower income taxpayers from the tax rolls, the act introduced the "exempt" status on Form W-4,

Figure 2. Number of Total Individual Returns and Refund Returns (1960-1987)



so that persons who expected to be nontaxable did not have taxes withheld during the course of the year and did not have to file a return. (The slowdown in total individual return growth, seen in Figure 2, shows this effect.) The new "exempt" status put a downward force on the number of refund returns, since most, if not all, of these filers would be in refund situations. This caused the growth in refund returns to stop in filing years 1971 and 1972. The subsequent increase in 1983 was, as noted previously, caused mainly by the structural shift resulting from the Revenue Act of 1971.

C. and D. Tax Reform Act of 1976 and the Tax Reduction and Simplification Act of 1977

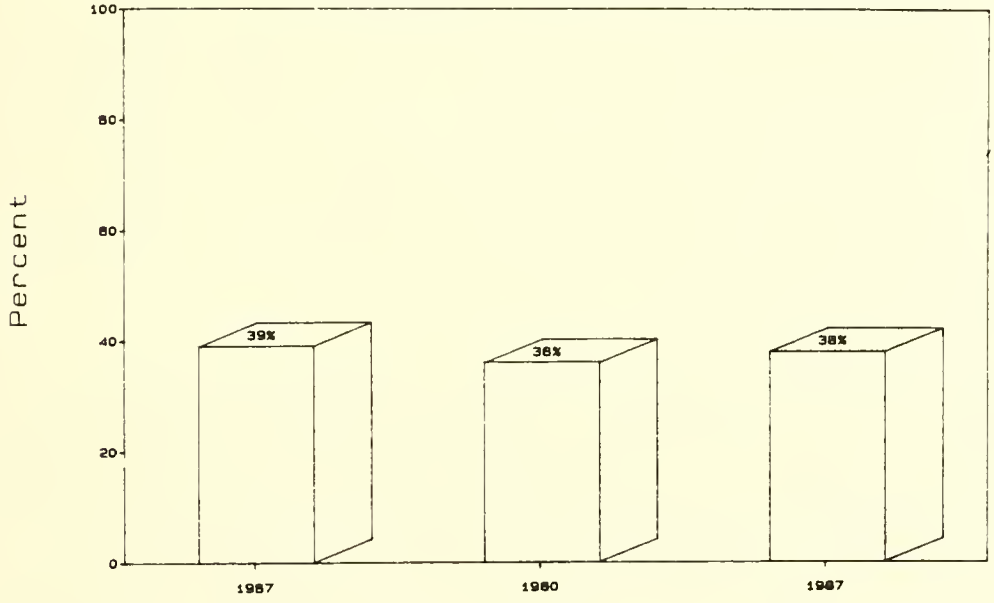
These two tax acts impacted the returns filed in 1978 and 1979 (see C and D on Figure 2). Among the major revisions of the 1976 act were an extension of the earned income credit, liberalization of the requirements for moving expenses, and authorization of IRAs for non-working spouses. The 1977 tax act established the "zero bracket amount," revised the tax rate schedules, extended the general tax credit, introduced the "new jobs" credit, as well as other revisions. These major tax law changes apparently resulted in another temporary "pause" in the number of refunds during the 1977 to 1979 period. The post-1979 growth in refunds may then reflect taxpayers adjusting their withholding to re-establish their refund conditions--after the initial impact of the major tax law changes were realized.

Taxpayers' Preference for Refunds

In general, Figure 2 shows refunds stalling the year of a major tax reform, then taking a jump the year after implementation, reaching a point close to their original trajectory. This could indicate that the average taxpayer realizes the effect of the tax law change after a single filing experience and correspondingly readjusts to his/her initial withholding (refund) level.

There have been several studies of taxpayers' preference for refunds. A 1987 Louis Harris and Associates, Inc. General Taxpayer Opinion Survey found that 38 percent of those who filed a new Form W-4 for TY 1987 expect a refund.2/ A 1980 CSR, Inc. General Taxpayer Opinion Survey, as well as a 1967 IRS Research Division study, found that 36 percent and 39 percent, respectively, intentionally adjusted their withholding the previous year in order to receive a refund.3/ (See Figure 3.) This preference for refunds seems to be motivated by a "forced saving" rationale (i.e., taxpayers overwithhold in order to create a savings fund they otherwise would not have). Those surveyed felt that money withheld from each paycheck during the course of the year is not missed as much as money owed on a "balance due" tax return, and that, at the end of a tax year, a refund is perceived as a bonus.

Figure 3. Taxpayers Intentionally Receiving Refunds: A 20 Year Comparison



The 1987 Louis Harris and Associates, Inc. survey found that only one percent of those receiving a refund for 1986 preferred to owe taxes. Although 25 percent of the population remembered owing tax last year, only eight percent of them preferred to owe. Table 1 summarizes the survey results from asking taxpayers how they ended up for 1986 and how they would have preferred to end up.

Table 1. 1987 Taxpayer Preferences

How Did You End Up Last Year?	How Would You Prefer To End Up?				
	Total	Owe Tax	Receive Refund	Paid Exactly	Not Sure
Total	100	10	67	16	7
Owed Tax	25	8	8	7	2
Received Refund	66	1	59	3	3
Paid Exactly	6	*	1	5	*
Not Sure	3	0	*	*	3

Note: "*" indicates less than 0.5 percent

A Booz-Allen and Hamilton Inc. focus group conducted for the IRS in 1987 (to develop a revised Form W-4) confirmed these data.4/ Most taxpayers interviewed acknowledged the difficulty in finding the cash for a lump-sum payment of the year's taxes and, therefore, tended to favor the withholding system. They also indicated that they do not want the burden of careful money management necessary to raise cash for their tax obligation every spring. Overwithholding provides a care-free assurance that this obligation can be met. As one taxpayer expressed: "Sure, I don't like the idea of the government having my money. But on the other hand, it's better than coughing up, let's say, $1,000."

These surveys, together with the refund return data, show that taxpayers value the withholding system for several tangible reasons. Deliberate overwithholding assures taxpayers that their tax obligation can be met. Taxpayers need not dip into savings, or worse yet, borrow, when tax filing season arrives. Also, overwithholding establishes a savings fund which can finance major household purchases, vacations, etc. And, finally, as indicated by the Booz-Allen and Hamilton Inc. focus group, the certainty of staying out of trouble with the IRS, by having no balance due, is important to many taxpayers.

Recent Experience with the Tax Reform Act of 1986

The Tax Reform Act of 1986 (TRA) substantially increased the value of a personal exemption, and eliminated the dual wage earner credit. These, and other changes, made it necessary for most taxpayers to reduce the number of withholding allowances claimed on their Form W-4, in order to avoid being underwithheld. To ensure that taxpayers recalculated their withholding, TRA required taxpayers to file a new Form W-4 in TY 1987. This requirement has, however, created a new concern for the IRS: Form W-4 filing compliance or the "W-4 factor." If taxpayers failed to file new Forms W-4, or filed them late in 1987, widespread underwithholding might result. This, in turn, could cause a significant shift from refund returns to balance due returns. Since refund returns tend to be filed earlier in the filing season, while balance due returns tend to be filed close to the April 15 deadline, such a shift would increase the number of returns filed during the final weeks of the filing season. Such an alteration in filing patterns would exacerbate the Service's already busy "crunch" period.

To determine the likelihood of such a scenario, the IRS monitored taxpayer compliance with the new Form W-4 filing requirement throughout CY 1987. The accumulated data revealed that 80 percent of the taxpayers had complied with the requirement by October 1, 1987. Also, the groups thought most likely to be underwithheld (i.e., dual income couples and people with higher incomes) filed their Forms W-4 relatively early and had above average compliance rates. Other data show that for all of CY 1987, withholding for individual taxpayers was 2.8 percent above that of CY 1986, while Form 1040-ES tax payments were up by 13.4 percent. The TRA also lowered individual tax rates and shifted some of the tax burden from individuals to corporations. The reduced tax burden for individuals, along with the growth in withholding and estimated tax payments shown in Table 2, suggest that underwithholding should not be widespread.

Table 2. Quarterly Withholding Amounts and 1040-ES Tax Payments for Calendar Years 1986 and 1987 (dollar amounts in millions)

	Actual Amounts				Comparison 1986 to 1987			
	1986		1987		Quarterly Net Change	Cumulative Net Change	Quarterly Percent Change	Cumulative Percent Change
	Quarterly	Cumulative	Quarterly	Cumulative				
				Withholding Amounts				
Jan-Mar	$78,582	$78,582	$79,469	$79,469	$887	$887	1.1%	1.1%
Apr-Jun	75,337	153,919	77,291	156,760	1,954	2,841	2.6%	1.8%
Jul-Sep	79,540	233,459	81,173	237,933	1,633	4,474	2.1%	1.9%
Oct-Dec	84,531	317,990	89,030	326,963	4,499	8,973	5.3%	2.8%
				1040-ES Tax Payments				
Jan-Mar	$17,022	$17,022	$20,524	$20,524	$3,502	$3,502	20.6%	20.6%
Apr-Jun	28,005	45,027	30,875	51,399	2,870	6,372	10.2%	14.2%
Jul-Sep	17,219	62,246	19,273	70,672	2,054	8,426	11.9%	13.5%
Oct-Dec	3,193	65,439	3,543	74,215	350	8,776	11.0%	13.4%

Returns filed during the first three months of 1988 provide a similar, although preliminary, indication that problems associated with underwithholding in 1987 were not widespread. As of April 25, 1988, the total number of refund returns comprised 72.76 percent of the total individual returns received--down only slightly from last year's figure of 74.09 percent. Another positive sign is that the average dollar amount of refunds increased from $837 in 1987 to $842 in 1988 (for the same week in April). While there may be pockets of underwithholding, the weight of the evidence indicates that the "W-4 factor" did not have a major impact on the number and average amount of refund returns.

Notes and References

1. General attitudes and actions taken by taxpayers have been surveyed and documented in a recent Booz-Allen and Hamilton Inc. focus group (cited in note 4 below).

2. Louis Harris and Associates, Inc. "1987 Taxpayer Opinion Survey," prepared for the Internal Revenue Service, August 1987.

3. Aitken, Sherrie S., and Laura Bonneville. "A General Taxpayer Opinion Survey," CSR, Inc., March 1980.

4. Booz-Allen and Hamilton Inc. "1988 Form W-4 Development Phase III Report of Test Plan, Methodology and Test Results," prepared for the Internal Revenue Service, December 1987.

Trends in Taxpayers' Use of Preprinted Labels and Preaddressed Envelopes

by
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As part of our service to the public, the Internal Revenue Service provides preprinted labels and preaddressed envelopes to taxpayers in the annual tax package mailout. Over the past few years, the number of taxpayers and practitioners using these labels and envelopes has steadily declined--resulting in increased costs for processing returns and unnecessary delays in providing service to the public. The Service has reviewed the causes for these declines in label and envelope usage, and a number of actions to stem the decline have already been implemented. Additional actions are being considered for the future.

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Background

Since the mid-1960's, the Internal Revenue Service has included preprinted labels and preaddressed envelopes in the tax form packages that are sent annually to the taxpayers. The labels contain precoded check digit information (the two alpha characters preceding the social security number) which enables the Service to accelerate the processing of tax returns by substantially reducing the need for manual input of taxpayer information. The envelopes contain bar codes which provide IRS with important information for machine sorting and processing. Through the use of these labels and envelopes, millions of tax dollars are saved as the result of increased efficiency in processing returns. Taxpayers also benefit by receiving earlier refunds and by obtaining faster service from the Internal Revenue Service.

Beginning in the early 1980's, the use of these time and money saving devices began to decrease. Based on data reported in the Statistics of Income (SOI) Taxpayer Usage Study, the number of returns filed with labels attached declined from 54.4 million in tax year 1981 to 52.7 million in tax year 1986. As a percentage of total individual returns filed, the decline is even more marked--from 60.0 percent in 1981 to 54.5 percent in 1986. Envelope usage also declined substantially during this period. In 1981, 68.6 million envelopes were used; by 1986, this number had decreased to 54.5 million. As a proportion of total individual returns, this represents a dramatic decline in envelope usage--from 75.6 percent in 1981 to 56.4 percent in 1986.

These are disturbing trends for the IRS. Returns filed without labels require manual input of the information needed to process the returns, while returns filed in unofficial envelopes need to be manually sorted. These procedures are not only costly and time consuming, they also increase the chances for errors.

A major question confronting the Service is why taxpayers or practitioners are not using the preprinted labels and preaddressed envelopes. To find some answers to this question, three different data sources were used: 1) the IRS Statistics of Income (SOI) Taxpayer Usage Study, 2) the 1987 General Purpose Taxpayer Opinion Survey conducted by Louis Harris & Associates, and 3) the 1987 Fresno and Ogden service center surveys based on telephone interviews. The main findings from these data sources are discussed below.

The SOI Taxpayer Usage Study

The SOI Taxpayer Usage Study (TPUS) is an annual statistical study based on a sample of individual income tax returns filed during the first four months of the year. The tabulated results of this study are reported in the **SOI Bulletin.** TPUS provides statistical information on tax returns, including some information on the use of preprinted labels. Table 1 shows how label usage varies depending on whether a return was professionally-prepared or self-prepared. According to this data, paid-preparers filed a lower proportion of returns with labels (48.1 percent) in tax year 1986 than did self-preparers (59.9 percent).

Table 1. Label Usage by Type of Preparer, Tax Year 1986

Type of Preparer	Number of Returns (millions)	(percent)
Total Individual returns	96.7	100.0
Self-prepared	52.6	54.4
Prepared by a paid-preparer	44.1	45.6
Self-prepared	52.6	100.0
With preprinted label	31.5	59.9
Without preprinted label	21.1	40.1
Prepared by a paid-preparer	44.1	100.0
With preprinted label	21.2	48.1
Without preprinted label	22.9	51.9

An analysis of mailing label data seems to support the TPUS finding that label usage was lower among taxpayers who used paid-preparers. These data show that label usage was very low among business and farm filers who used a paid-preparer in both the current and previous tax years. However, this usage rate may be particularly low because, instead of a tax package, these filers received a postcard which contained their peel-off label. For the 1987 filing season, the Service sent out 15.8 million of these postcards, but only 3.5 million (or 22 percent) of the labels were actually used.

One major reason that label usage decreases as taxpayers' use of paid-preparers increases is that, as a result of office automation, paid-preparers are more likely to use their own prepared labels. Other findings indicate that label usage decreases as the filing season progresses. Taxpayers who file early are more likely to be filing for refunds and, therefore, may be more motivated to use the labels in order to expedite their refunds.

The 1987 General Purpose Taxpayer Opinion Survey

In July and August of 1987, Louis Harris & Associates conducted a survey for IRS concerning the issues facing taxpayers. The purpose of the survey was to gather current data on taxpayers' perceptions, behavior and experience relative to the Internal Revenue Service and its administration of the tax system. The survey also collected data on trends in public opinion that would have an impact on IRS operations. Part of the information gathered by the survey is related to the taxpayers' use of preprinted labels and envelopes. These data are shown not only by type of label and envelope usage, but also by major characteristics such as geographic area, income level, employment status, education, marital status, type of forms used, etc.

Label Usage

Of the total number of taxpayers in the survey, 73 percent of the respondents said that they had received a tax package or postcard. However, only 56.4 percent of the total surveyed said that they used the label. This proportion is reasonably consistent with the 54.5 percent label usage rate found by the SOI Taxpayer Usage Study discussed above. The respondents who did not use the labels were questioned to determine the basic reasons for nonusage. The answers given by this group are shown in Table 2.

Table 2. Reasons Given for Not Using the Labels by Taxpayers Who Received a Tax Package or Postcard

Reasons	Percent
Respondents who did not use the label on their return	100
Prepared by an accountant or someone other than the taxpayer	38
Incorrect address on label	33
Lost the label	10
Haven't filed yet	5
Trigger audit	3
Other reasons	11

As indicated above, the three main reasons given by the respondents for not using the labels are:

- **The return was prepared by an accountant or someone other than the taxpayer (38 percent).** Many professional preparers use their own automated labeling system and, therefore, do not use the IRS labels. Of the total number of taxpayers who used someone else's service, nearly half were salaried workers, and most were in the middle income range with either a high school diploma or some degree of high school training. Fifteen percent of the returns with no labels that were prepared by paid-preparers were filed on Forms 1040A or 1040EZ.

- **The address on the label was incorrect (33 percent).** As expected, the main reason for incorrect labels was that taxpayers had changed their address. Approximately half of the incorrect labels were sent to taxpayers residing in the southern areas, indicating high mobility of taxpayers residing particularly in the states of Florida, Georgia, North Carolina, and Texas. Also, nearly half of the incorrect labels were received by filers of Forms 1040A or 1040EZ.

- **The label was lost (10 percent).** Nearly two-thirds of the taxpayers in this category had never prepared their own tax return, and about half of the taxpayers were college graduates. The survey also indicated that nearly twice as many women lose their labels as men.

Envelope Usage

Of those taxpayers surveyed who received a tax packet, 86 percent contained an envelope preaddressed to the Internal Revenue Service, and most of these taxpayers said that they used it. Of the respondents who received the envelope but did not use it, 62 percent indicated that their return was prepared by a paid-preparer. As shown in Table 3, nearly half of these taxpayers have less than a high school education and slightly more than half earn less than $25,000 per year.

Table 3. Characteristics of Taxpayers Who Received An Envelope But Did Not Use It (Professionally-Prepared Returns Only)

Taxpayer Characteristics	Percent
Education status	100
Less than high school education	47
High school graduates	25
Some college education	8
College graduates	20
Income status	100
Income under $25,000	55
Income $25,000 under $50,000	31
Income $50,000 or more	6
Don't know/no answer	8

Another reason given by the respondents for not using the envelope was that the envelope was too small. Most of these taxpayers were self-employed persons--generally with an income of $50,000 and over. These returns would tend to be complex, with many forms and schedules attached, making them difficult to fit into a standard size IRS envelope.

Fresno and Ogden Service Center Surveys of 1987

Both the Fresno and the Ogden service centers conducted a telephone survey of taxpayers who did not use the label on their return. The surveys were conducted by IRS personnel while the returns were being processed and, thus, while the reasons for nonusage should have been still fresh in the taxpayers' minds. The responses given by the taxpayers in the Fresno and Ogden service center surveys for not using the labels are shown in Table 4.

Table 4. Reasons for Not Using the Labels

Reason	Fresno (percent)	Ogden
Preparer had the label but did not use it	21	22
Taxpayer did not receive the tax package or postcard	17	21
Taxpayer did not give the label to the tax preparer	14	9
Taxpayer moved, did not realize the label could be used	9	12
The return was computer-prepared	10	2
Not important/didn't care	7	7
Would use label in future if it results in faster refund	99	57

Both surveys gave "preparer had the label but did not use it" as the leading cause for nonusage. The primary reason why the practitioners are not using the labels is that their total return preparation process is automated, including the label information preparation. Some practitioners felt that the use of IRS prepared labels diminished the professional appearance of their finished product. Both surveys also gave nonreceipt of the tax package or postcard as the second leading cause for not using the label.

Significant differences occurred between the service centers in the percentage of respondents giving "computer-prepared return" as a reason for not using the label. Ten percent of the Fresno respondents gave this as their reason compared to only 2 percent of the Ogden

respondents. Significant differences also occurred in the last item on faster refunds. Ninety-nine percent of the Fresno respondents indicated they would use the label if it would result in faster refunds, but only 57 percent of the Ogden respondents said they would do so.

Actions to Increase Label and Envelope Usage

Several actions have been taken by the Service to increase the use of preprinted labels and envelopes by taxpayers and practitioners:

- The use of postcards to send preprinted labels to certain taxpayers has been discontinued. A tax package (with a preprinted label and preaddressed envelope) is now sent to every taxpayer who filed a return in the previous year.

- A large blue graphics which reads "Please use this label on your return" has been inserted on the face of the 1987 tax package.

- A large bold-faced label which reads "PLACE LABEL HERE" has been inserted on the face of the Forms 1040, 1040A and 1040EZ.

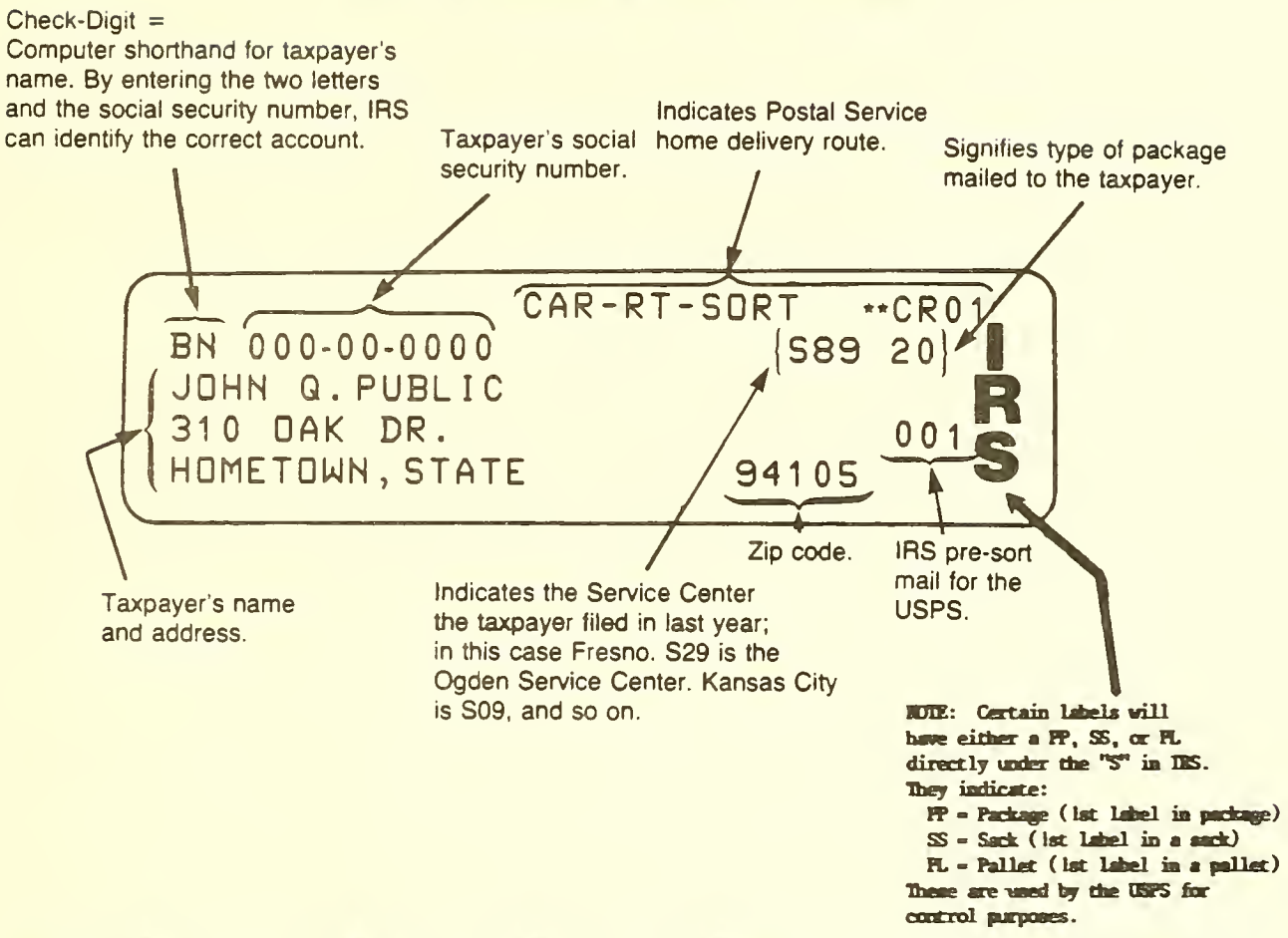
Since all three surveys indicated that the main reason for nonusage of the labels was that the return was prepared by someone other than the taxpayer, the Service initiated actions to allow tax practitioners to include the precoded check digit information (the two alpha characters preceding the social security number) on their own computer-prepared labels. (A diagram giving a detailed explanation of the use of each of the data elements in the check digit is shown on the following page.) The practitioners can adopt this procedure provided they: 1) submit the computerized format to the IRS office for approval, and 2) include the check digit information on the label only if there is no change in either the taxpayer's name or address. These system changes have been mandated in Revenue Procedure 88-11 (Publication 1167, Rev. 1-88) and implemented for tax year 1987.

Another system change being developed to enhance label usage involves the identification of taxpayers who did not have either an IRS label or a practitioner-entered check digit code on their return. For these taxpayers, a postcard will be sent to remind them to use their label or to take the label and envelope to their tax practitioner. The Service will stress the benefits of using the label (faster refunds, quicker service), and the possible consequences of not using the label (processing delays, additional reviews, errors in processing, etc.). In addition, the following actions are being considered to increase label and envelope usage:

- Releasing the check digit formula to the tax practitioners so that they can generate the check digit information (under certain conditions);

- Increasing efforts to inform taxpayers that preprinted labels can still be used even though they have moved; and

The Preprinted Label


Check-Digit = Computer shorthand for taxpayer's name. By entering the two letters and the social security number, IRS can identify the correct account.
Taxpayer's social security number.
Indicates Postal Service home delivery route.
Signifies type of package mailed to the taxpayer.
CAR-RT-SORT **CR01
BN 000-00-0000
JOHN Q. PUBLIC
310 OAK DR.
HOMETOWN, STATE
S89 20
001
94105
I
R
S
Taxpayer's name and address.
Indicates the Service Center the taxpayer filed in last year; in this case Fresno. S29 is the Ogden Service Center. Kansas City is S09, and so on.
Zip code.
IRS pre-sort mail for the USPS.
NOTE: Certain labels will have either a PP, SS, or PL directly under the "S" in IRS. They indicate:
PP = Package (1st label in package)
SS = Sack (1st label in a sack)
PL = Pallet (1st label in a pallet)
These are used by the USPS for control purposes.

Preprinted Label information needed from Practitioner in order for IRS to process "as if a label is used."

NOTE: Do not include the check-digit (2 alpha characters preceding the SSN) if there has been a change to either the taxpayer's name or address since last filing. Doing so will result in such things as delayed/erroneous refunds, processing delays, and IRS reviews, contacts, or corrections.

BN 000-00-0000
JOHN Q. PUBLIC
310 OAK DR.
HOMETOWN, STATE 94105

- Stressing the need for taxpayers to give the label and envelope to the paid-preparer.

It is more difficult to address the fundamental reason behind nonusage of envelopes--which is that the envelope is frequently too small. Taxpayers and practitioners often mail more than one return in the same envelope--probably to save postage. The most frequently-used size is the 6" x 9" envelope, which is too large to be processed by IRS mail equipment. The Service could, presumably, increase envelope usage by providing a larger envelope, but this would require the design and installation of new equipment with which to process these larger envelopes. The Service is planning to conduct further research on this problem.

The Taxpayer Service Division and the Public Affairs Division of the Internal Revenue Service have united to publicize the advantages of using preprinted labels and preaddressed envelopes when filing tax returns. This publicity and the new procedures outlined above should increase the use of labels and envelopes by the taxpaying public. The Service will continue to monitor the effectiveness of these procedures in helping to reduce costs and in providing better service to the taxpayers.

Selected Trends in Taxpayer Delinquent Accounts

by
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The more serious balance due cases for the IRS are classified as taxpayer delinquent accounts. Recent data show that there is an upward trend in the number of "TDAs" being issued. However, the average dollar amount of these cases appears to be leveling off. Revenue yield from working TDAs was $6.4 billion in fiscal year 1987, with indications that it might continue to grow in future years. This article takes a closer look at these, and other trends, in the area of taxpayer delinquent accounts.

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Introduction

The more serious accounts receivable cases for the IRS Collection function are those that are not resolved in the service center notice (letter) chain and which exceed certain minimum dollar thresholds. In these situations, the dollar amount of the outstanding liability is substantial, while the taxpayer has failed to adequately respond to the various IRS correspondences seeking to resolve the balance due situation. Under normal Collection procedures, such balance due cases are then "issued" as "taxpayer delinquent accounts" (i.e., TDAs). In general, this means that responsibility for processing the balance due case is transferred to the Automated Collection System (ACS). If ACS is unable to resolve the TDA, the case will then be assigned to the IRS district office for personal contact by a revenue officer (RO), as appropriate.

This article will examine some of the recent trends in TDAs. It will first consider the volume of TDA issuances, and their average dollar amounts. Next, data will be presented on how these TDA issuances are resolved, and the length of time required to dispose of them. Finally, the revenue yield from working TDAs will be considered. In the process, some of the major changes in Collection operations from 1982 through mid-1987 will be highlighted.1/

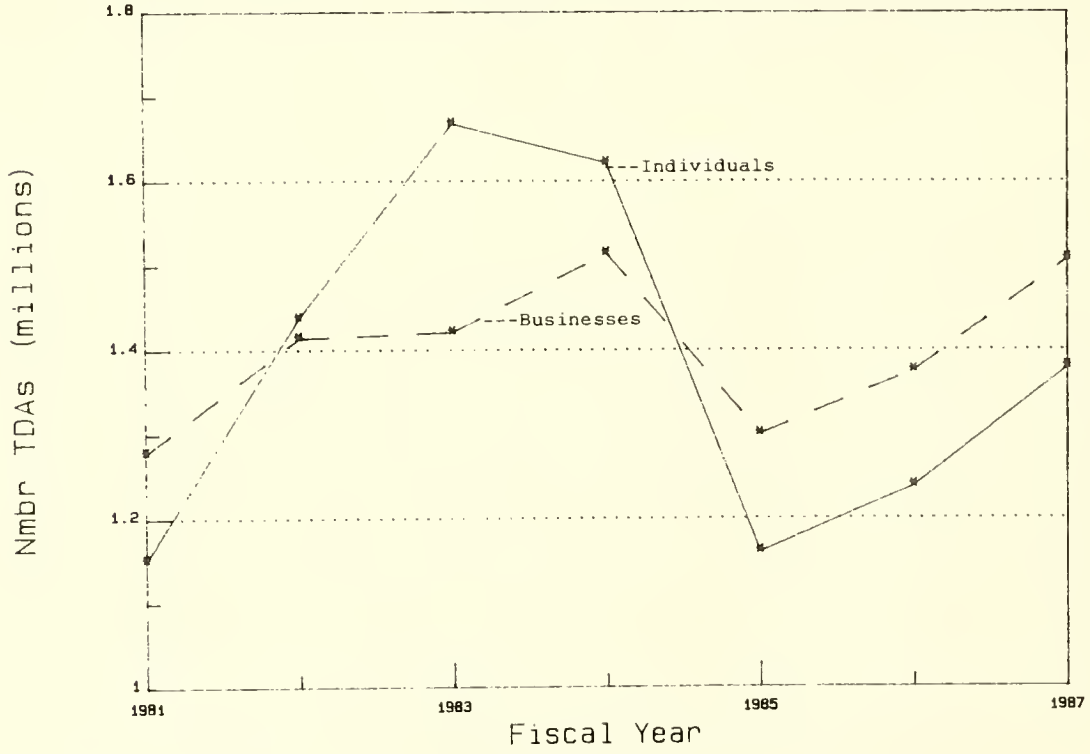
The following results will generally distinguish "individuals" from "businesses." Individual Master File taxpayer delinquent accounts (IMF TDAs) are balance due accounts relating to individual income tax returns (i.e., Forms 1040, 1040A, etc.). Business Master

File taxpayer delinquent accounts (BMF TDAs) are generally associated with employers (businesses). These include such returns as: Form 941 (Employer's Quarterly Federal Tax Return); Form 1120 (U.S. Corporation Income Tax Return); Form 720 (Quarterly Federal Excise Tax Return); and numerous others. In addition, TDAs correspond to specific tax returns (i.e., tax periods). Thus, one taxpayer may have several TDAs.

The Number of TDAs Issued

The recent trends in the volume of IMF and BMF TDA issuances are presented in Figure 1. At first glance, these time series data appear somewhat erratic. However, there is actually an underlying upward trend in both individual and business TDA issuances, when you account for the major drop that occurred in both time series during fiscal year (FY) 1985.

Figure 1. Number of Taxpayer Delinquent Accounts (TDAs) Issued: FY 1981 - FY 1987



The number of BMF TDA issuances rose annually from FY 1981 to FY 1984--going from just under 1.3 million TDAs to just over 1.5 million. This volume then dropped to about 1.3 million in FY 1985, before resuming its upward trend again through FY 1987. Hence, there is a clear upward trend in BMF TDA issuances between FY 1981 and FY 1987,

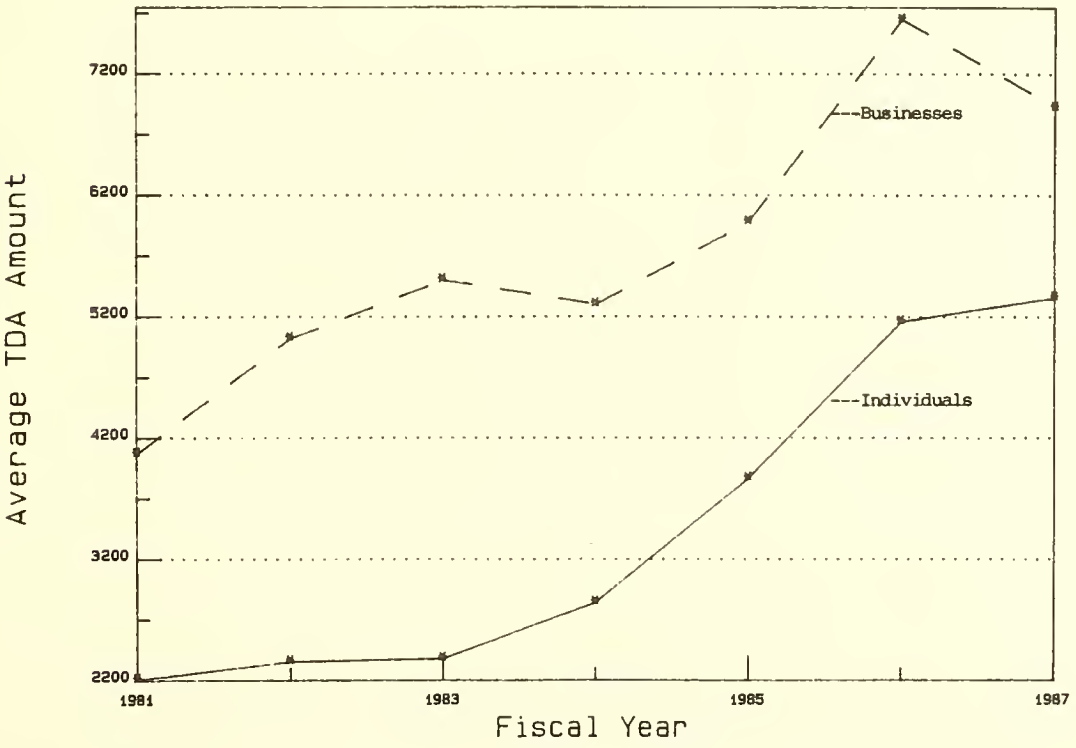
with the exception of a "downward level shift" that occurred in FY 1985. This downward level shift is attributable to the increase in the BMF "deferral level," which was implemented in June 1985. Under this operational change, the dollar threshold to qualify for TDA issuance was raised. As a result, the number of BMF TDA issuances experienced a decline from FY 1984 to FY 1985.

The 1985 deferral level increase also accounts for the downward level shift in individual TDA issuances for FY 1985 (see Figure 1). On whole, the trend in the number of IMF TDA issuances mirrors that of the BMF portion. The only exception is in FY 1984, when there was a small decline from the preceding year. Still, the bottom line is a clear upward trend in both IMF and BMF TDA issuances--a trend that is expected to continue.

Average TDA Amount of Business Delinquencies

The average dollar amount of business TDA issuances generally increased over the FY 1981 through 1987 period--from just under $4,200 to about $6,900 (see Figure 2). However, in both 1984 and 1987, the average BMF TDA issuance amount actually dropped from the preceding year. It also appears that the growth in this average amount was particularly large for FY 1986.

Figure 2. Average TDA Amount of Issuances for FY 1981 - FY 1987



One possible factor does help explain this pattern. Since the BMF deferral level was raised in June 1985, the average dollar amount of TDA issuances would logically grow (due to the elimination of lower dollar cases). This would explain the noticeable jump in FY 1986 for the business trend line in Figure 2. Since the last four months of FY 1985 would also reflect the effects of the deferral level increase, this helps explain the less pronounced jump for 1985, as well.

The increase in the BMF deferral level would cause the average TDA amount to rise, initially. However, the drop in this respective average for FY 1987 suggests that the measure may have reached a plateau. If this is so, then the average business TDA issuance amount may now be stabilizing around a new level (approximately $7,200). From this level, it may be expected to grow only a little in future years as a result of inflation--all else being equal.

This pattern of the average BMF TDA amount growing initially after a deferral level increase, followed by a leveling of this measure (after the system adjusts to the new deferral threshold) also fits the business trend line between FY 1981 to 1984. Prior to June 1985, the BMF deferral level was last raised in December 1979. Thus, the business trend line in Figure 2 for 1981 through 1984 may reflect the initial growth resulting from the 1979 (FY 1980) deferral level increase, followed by a leveling around the $5,200 mark in 1984.

Average TDA Amount of Individual Delinquencies

The explanation of the BMF trend line in Figure 2 also extends to the individual side. Prior to June 1985, the IMF deferral level was last raised in late 1978. The trend in the average dollar amount of IMF TDA issuances in Figure 2 does appear to have been reasonably stable during the 1981 through 1984 period (perhaps reflecting its plateau). This is followed by a sharp growth in this average during 1985 and 1986 (tied to the deferral level increase). The 1987 experience, in turn, suggests that this average may now be stabilizing around the $5,200 figure.

Type of TDA Dispositions Based on CRF Samples

Most TDAs are resolved "full paid" (which includes instances where some or all of the liability is abated). However, some situations arise wherein the TDA is "disposed" (removed from active Collection inventory) without full payment. These situations include instances where: the account is disposed "currently not collectible" (CNC); the statutory period of collection expires; the case is taken to court; the case is referred to the IRS Criminal Investigation function; in addition to others.2/

Since any given taxpayer delinquent account can take years to be resolved, the main Collection function management information reports do not "track" specific TDA issuances through to their closure. Instead, random samples of IMF and BMF TDAs issued each

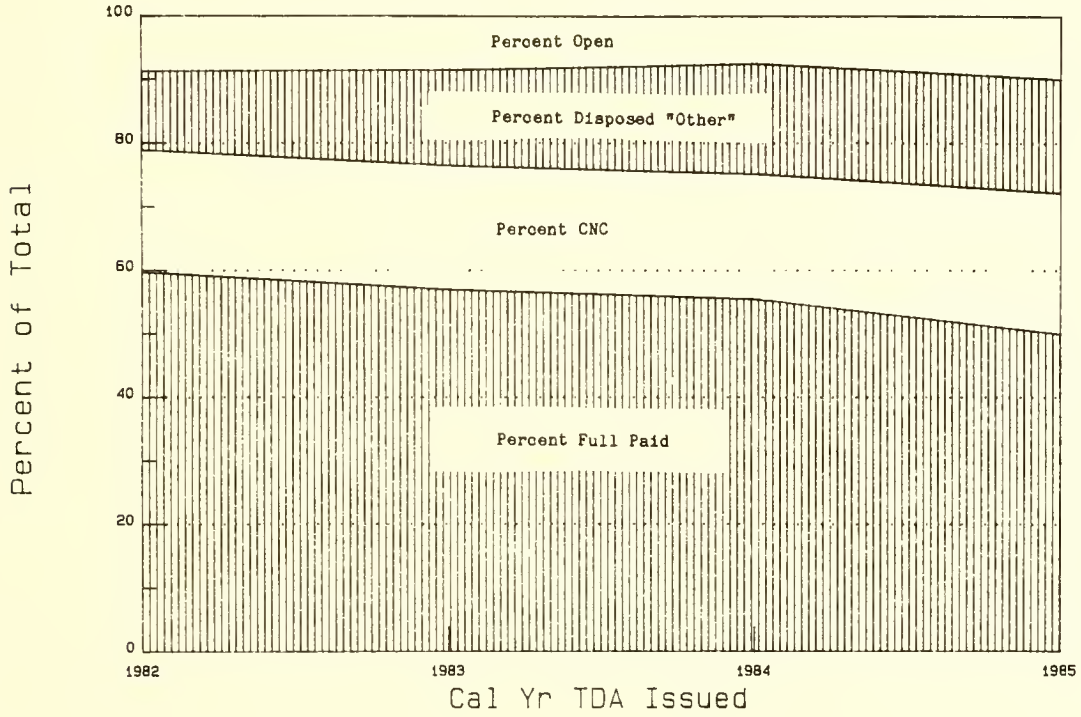
respective calendar year (CY) since 1982 are being "tracked" via the Collection Research File (CRF). Using the CRF, it is possible to develop various time series estimates that relate TDA issuances directly to their dispositions. For purposes of this article, the CY 1982, 1983, 1984 and 1985 CRF samples (as analyzed roughly two years after their TDA issuance dates) will be considered.3/

BMF TDA Dispositions

Figure 3 reveals a general decline in the percentage of "full paid" business TDA issuances--from about 60 percent of the CY 1982 TDAs, to about 50 percent of the CY 1985 issuances. It also appears that the percentage of BMF TDAs still "open" after two years has remained fairly constant. As is indicated at the top of Figure 3, about nine percent of the CY 1982 BMF TDAs were open two years after issuance, compared to 10 percent for the CY 1985 sample.

Figure 3. Type of Disposition - Business TDAs: Based on CRF Samples of CY 82 - 85 Issuances

(Status of TDAs Two Years After Issuance)



The decline in the percentage of BMF TDAs that are "full paid" basically corresponds with an increase in the proportion disposed "other" (i.e., tax litigation, deferred, referred to criminal investigation, etc.). This is certainly true for the first three years in question, as the percent disposed "CNC" remained

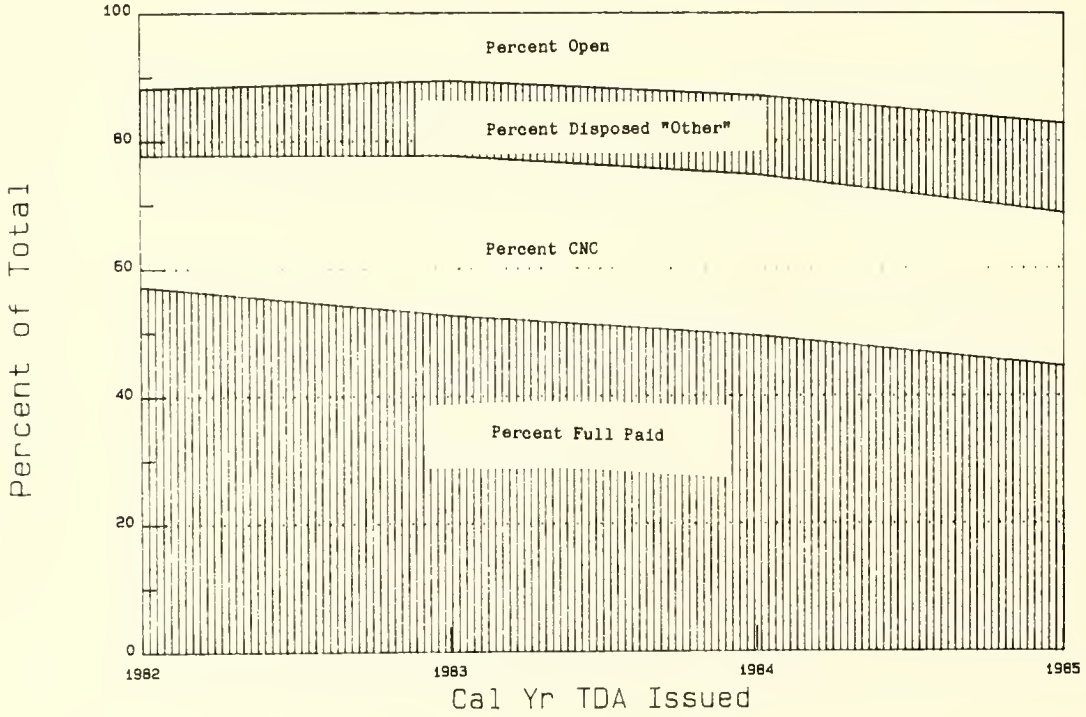
essentially constant at about 19 percent. However, for the CY 1985 sample, the percent "CNC" rose to about 22 percent, thus, sharing some of the growth (resulting from the decline in full paid) with those TDAs disposed "other."

IMF TDA Dispositions

The results for IMF TDA dispositions (Figure 4) are similar to the BMF experience. Like the business accounts, the percentage of individual taxpayer delinquent accounts paid in full (based on the CRF samples) has continued to decline. For the CY 1982 IMF TDAs, approximately 57 percent were full paid after two years. For the CY 1985 IMF sample, this respective figure had dropped to about 45 percent.

Figure 4. Type of Disposition - Individual TDAs: Based on CRF Samples of CY 82 - 85 Issuances

(Status of TDAs Two Years After Issuance)



However, unlike the BMF side, the drop in the IMF percent full paid corresponds to a noticeable increase in the percent open. Comparing the 1982 and 1985 samples, the percent of IMF TDA issuances that were full paid dropped by about 12 percentage points (from about 57 percent to 45 percent). During this same period, the

percentage of IMF TDAs still open grew by approximately six percentage points (from 11.8 to 17.4 percent). The remaining six percentage point difference is essentially split between the percent disposed CNC and the percent disposed "other." Still, for the last three years' samples (i.e., CY 1983 through 1985), the percentage of IMF TDAs disposed CNC has remained fairly steady at about 25 percent (compared to a value of 20.6 percent for the CY 1982 sample).

From this CRF data on dispositions, it is possible to identify a few noteworthy trends. But perhaps of more interest is speculation on the "causes" for these trends and/or projections of their future behavior. However, before addressing these issues, we must first provide some additional background information.

Some Important Caveats About the CRF Disposition Results

The CRF disposition results summarized in Figures 3 and 4 require two important clarifications. First, the data actually reflect the "first disposition condition after TDA issuance," not the "final" resolution of the case. For example, an analysis of IMF delinquent accounts first disposed "CNC" in 1982 showed that over 43 percent of these cases subsequently went to "full paid" status after a few years (13 percent for BMF).4/ **Thus, the data in Figures 3 and 4 definitely understate the percentage of TDAs that are eventually paid in full.** Second, the CRF results are based on samples. Thus, the results are subject to sampling error and should be interpreted as such (e.g., discounting the importance of small differences).

Some Major Changes in Collection Operations

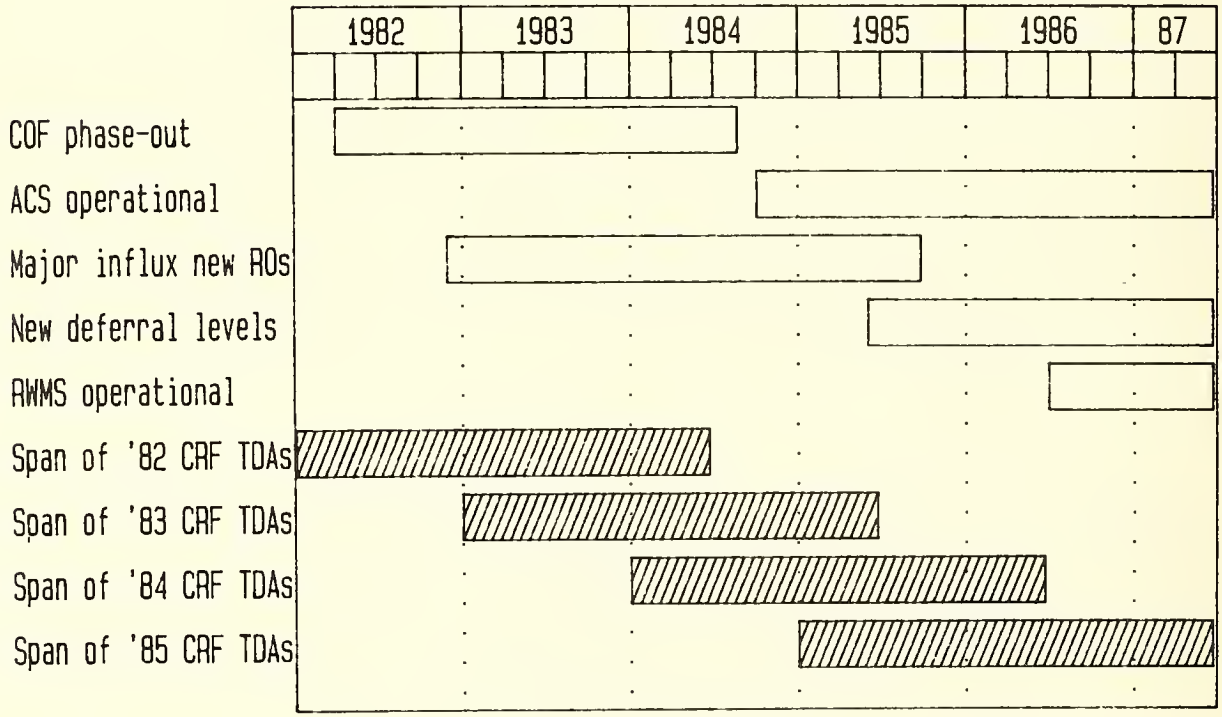
It is also important to keep in mind that the Collection function has made several major changes in its operating environment during the 1980's. These changes involve the application of Collection resources and undoubtedly impact the TDA results being discussed. The 1985 increase in the BMF and IMF deferral levels (and its impact on the number and average amount of TDA issuances) has already been identified as one such change; and there are several others that are directly relevant to this analysis.

Figure 5 summarizes the timing of five major operational changes in Collection that impact the TDA results under discussion. These five "events" are: the phase-out of the old Collection Office Function (which used to perform the telephone/office collection techniques manually); the nationwide implementation of the Automated Collection System (which replaced the old COF); the significant expansion of the RO workforce via a sizable influx of new hires during fiscal years 1983 through 1985 (as part of a budgetary "revenue initiative"); the 1985 increase in the deferral levels and; the nationwide implementation of the Resources and Workload Management System (formerly called the Workload Priority and Selection System).5/ Also included at the bottom of Figure 5 are the "life spans" of the four CRF TDA samples under study (i.e., the maximum length between when the TDAs were issued and when they could have been recorded as disposed).

Figure 5 helps gauge the extent to which these major operational changes in Collection may be impacting the CRF TDA results under analysis. It also serves to document these Collection "events", in general. Still, the changes depicted in Figure 5 are by no means exhaustive. Particularly absent are any references to changes in Collection procedures (as issued in the Internal Revenue Manual). Nonetheless, the five "events" cited do stand out as major internal factors effecting TDA processing.

Figure 5. Major Changes in Collection Operations That Would Impact TDA Processing

Calendar Year 1982 to Mid-1987



Interpretation of Selected CRF Trends in Type of Dispositions

Declining Trends in the Percent Full Paid

Explanations of causes for the trends in dispositions are largely judgmental, given only four years of CRF data. Nonetheless, the declining trends in the percent of TDA issuances disposed full paid (for both IMF and BMF) may be partly attributed to the overall increase in the average TDA amount. In general, smaller dollar TDA

liabilities are more likely to be paid in full than are larger TDAs. Thus, as the average TDA amount rises, the percentage of issuances that are full paid may tend to decline. If, as suggested earlier, these average TDA amounts are leveling off, this suggests that the declining trend in the percent full paid may also stabilize eventually.

Differing Trends in the Percent Open After Two Years

The CRF trends in the percentage of cases still open after two years are different for IMF versus BMF. For BMF, the trend has been fairly stable over the four years in question, hovering around nine percent. However, for IMF, this percent has tended to grow, particularly for the last two years (i.e., TDAs issued in CY 1984 and 1985). While apparently contradictory, these trends may in fact be partly a reflection of the same factor.

The IRS considers employment tax return (particularly Form 941) delinquencies on the business side a very serious matter. This is because the delinquencies involve "trust fund" monies (mainly taxes withheld from employees' wages) and because the delinquencies tend to pyramid rapidly. As a result, BMF trust fund TDAs have traditionally received higher priority attention in Collection. In addition, during the 1980's, IRS management has continued to place added emphasis on revenue yield. With the implementation of Collection's RWMS in 1986, this yield priority consideration got an added systemic boost. In general, BMF TDAs result in larger dollars credited compared to IMF TDAs (because, among other reasons, average dollar liabilities for business TDAs are larger).

Consequently, to the extent business TDAs have received greater attention, this would likely contribute to the proportion of open BMF TDAs remaining fairly constant. In other words, BMF TDAs were high priority cases in the past and they are still high priority cases today. Meanwhile, the IMF cases may have tended to get a slightly lower priority in recent years, thus remaining open progressively longer. All else being equal, one would expect these two trends in the percentage of TDAs open after two years to continue.

Length of Time to Dispose TDAs

The length of time measure considered in Table 1 is a "calendar time" value. It measures the number of weeks that elapse from when a TDA is issued to when it is recorded on the IRS Master File as disposed. This information can be quite useful in estimating the timing of revenue collections and the impact on inventory levels. Table 1 summarizes these CRF time results for BMF and IMF TDA dispositions.

Resolving BMF TDAs

For all BMF TDAs, the average number of weeks to dispose of a case has remained fairly constant over the four CRF sample years--going from 32.3 weeks for CY 1982 issuances to 33.6 weeks for CY 1985 cases (see Table 1). This same steady pattern holds for

BMF TDAs first closed full paid, and for BMF TDAs greater than $5,000. The only exception appears to be in the CY 1985 sample for the full paid business TDAs. For the CY 1982, 1983 and 1984 BMF samples, the average number of weeks to dispose of a full paid TDA hovered around 26 weeks. However, for CY 1985 issuances, this respective measure rose to 29.2 weeks.

Table 1. Average Number of Weeks From TDA Issuance to First Disposition By Selected Characteristics: Two Years After Issuance

Type of Taxpayer and CRF Sample Year	Average Number of Weeks to Dispose			Net Difference in Weeks	
	All TDA Cases	TDAs that go Full Paid	TDAs over $5,000	All Cases vs Full Paid	All Cases vs TDAs > $5000
I. Business TDAs					
CY 1982	32.3	26.8	35.2	+5.6	-2.8
CY 1983	30.4	25.6	30.5	+4.9	-0.1
CY 1984	31.1	26.1	34.1	+5.0	-3.0
CY 1985	33.6	29.2	33.9	+4.3	-0.3
II. Individual TDAs					
CY 1982	37.0	32.2	43.5	+4.8	-6.6
CY 1983	33.7	32.1	39.2	+1.6	-5.5
CY 1984	35.1	32.8	40.4	+2.4	-5.3
CY 1985	38.0	36.7	44.4	+1.3	-6.4

Note: Above figures exclude those TDAs still open after two years.

This overall "steadiness" in the length of time it takes to dispose of a BMF TDA issuance (for all dispositions, and for those stratified by full paid and large dollar) is consistent with the earlier explanation relative to open BMF cases. There the constant rate of TDAs still open after two years was noted, with speculation that it was tied to the higher emphasis given BMF TDAs. If business cases basically received the same high priority emphasis throughout the four sample years in question, then the length of time to dispose of these accounts would be largely a product of the behavior of taxpayers. The assumption that taxpayer behavior changes only gradually suggests a fairly constant length of time to dispose of business TDAs.

Also, on average, full paid BMF TDA dispositions occur a full month sooner than do dispositions in general. The first net difference column in Table 1 indicates that in CY 1982 the average BMF case disposition took 5.6 weeks longer than the full paid BMF TDA dispositions. For the CY 1985 BMF TDA issuances, this

respective figure is 4.3 weeks longer. These differences tend to confirm some conventional IRS wisdom. To paraphrase one revenue officer's half-serious jest, "full paid dispositions are easy; it's all the paper work required to document the other types of dispositions that take a lot of time and effort."

In addition, for the four CRF samples in Table 1, the average BMF TDA disposition took slightly less time than did the larger dollar TDAs (i.e., those over $5,000). This "negative" difference was quite small for the CY 1983 and 1985 samples (-0.1 and -0.3 weeks, respectively) and may simply be a product of sampling variability. Nonetheless, the pattern occurs in all four CRF sample years. This is essentially in line with an earlier point, viz., higher dollar cases are less likely to be full paid. Thus, it is not too surprising to find that the higher dollar BMF TDAs also take a relatively longer period of time to resolve.

Resolving IMF TDAs

The IMF data (presented in the bottom half of Table 1) reveal virtually the same patterns as those noted for business TDAs. On average, the length of time to dispose of IMF TDAs has remained fairly steady over the four years in question (within the three stratifications: total, full paid and large dollar). Also like the BMF, the one exception is the full paid dispositions for CY 1985. This point shows an apparent upturn in the length of time to full pay, as compared to the prior three years (i.e., from around 32 weeks to 36.7 weeks). Also similar to the BMF, IMF full paid dispositions generally occur sooner than dispositions on average; which, in turn, occur sooner than dispositions for larger dollar individual TDAs.

IMF Versus BMF

Table 1 also provides a clear indication that business TDAs are resolved sooner than individual taxpayer delinquent accounts. Performing a cell-by-cell comparison of BMF versus IMF in Table 1 (relative to the average number of weeks to dispose of TDAs), one finds, in every instance, that business dispositions occur sooner than their IMF counterparts. However, this does not mean that IMF TDAs take inherently longer to dispose than do business TDAs. Rather, it merely tends to confirm that business TDAs generally receive higher priority processing in Collection.

A Caveat About the CRF Time Results

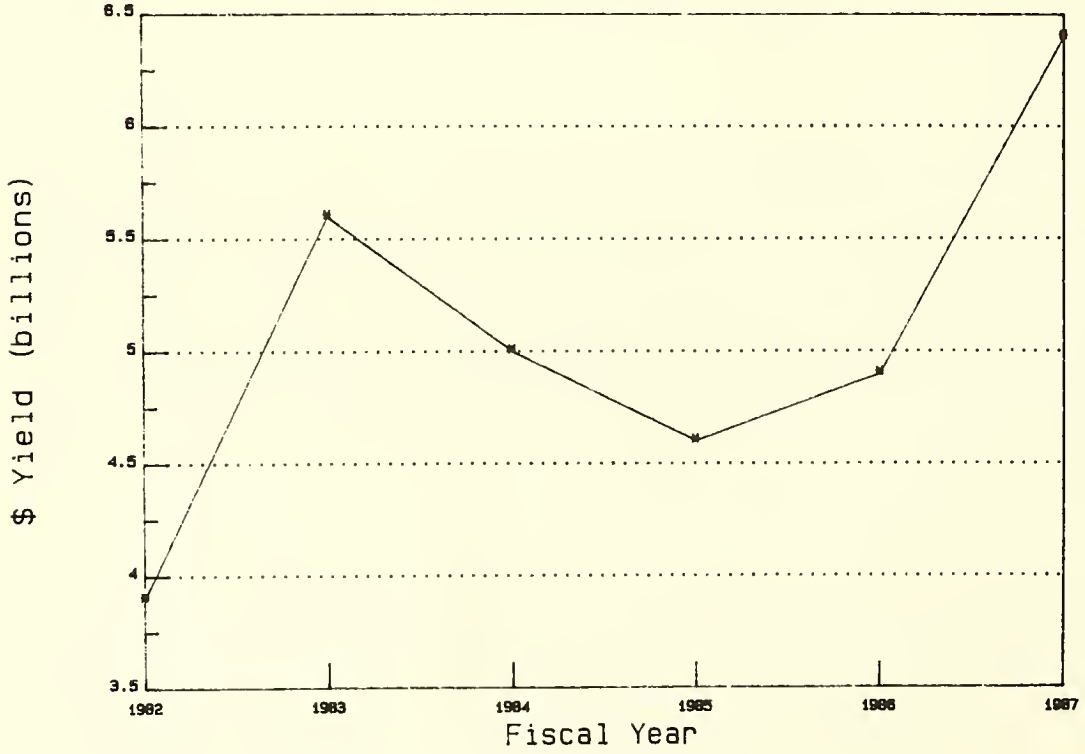
The figures in Table 1 are based solely on those CRF sample TDAs that were disposed within roughly two years of issuance. The results for TDAs that were still open at the time of the analysis are not reflected. Thus, to estimate the total length of time to dispose of all TDA issuances, one would have to account for these remaining open cases. This process would certainly raise the figures in Table 1, since the average number of weeks since TDA issuance for the open cases was typically in excess of 90 weeks.

Yield From Working TDAs

The amount of tax revenue collected from working IMF and BMF TDAs is substantial, running into the billions of dollars. This revenue yield includes subsequent payments from the taxpayer, enforced collections such as refund offsets and levies on bank accounts, in addition to other credits. Figure 6 presents the total revenue yield from the TDA program for FY 1982 through 1987. These results reflect a total of all credits received in a given fiscal year from working taxpayer delinquent accounts, regardless of whether the TDAs were actually disposed during that same year.

TDA yield has grown quite significantly when comparing FY 1982 and 1987--from approximately $3.9 billion to about $6.4 billion. It is difficult to establish any clear causes for the specific ups and downs in the trend for total TDA yield. However, it does appear that the peaks in FY 1983 and 1984 were tied to the expansion of the RO workforce which occurred as part of the revenue initiative to work down excessive TDA inventories. Also, the FY 1987 jump coincides with the implementation of RWMS. But regardless of specific "causes," it

Figure 6. Total Revenue Yield From TDAs: FY 1982 - FY 1987



does seem reasonable to conclude that the impact of recent changes in Collection TDA operations have combined to produce good yield results; results that show future promise as well.

Conclusion

In summary, the data on taxpayer delinquent accounts considered in this article reveal several noteworthy trends. The number of IMF and BMF TDA issuances is rising, after essentially a one-time drop due to an increase in the deferral levels in 1985. These upward trends are expected to continue. However, in terms of the average dollar amount of future TDA issuances, both series show signs of stabilizing (with BMF TDAs around $7,200 and IMF TDAs around $5,200). Also, both IMF and BMF TDAs are experiencing a downward trend in the percent of issuances that go full paid. However, these patterns appear to be partly in response to the prior growth in the average TDA amounts. Thus, the percent of TDA issuances going full paid may stabilize in the future, should the average issuance amount level off.

It also appears that the percent of BMF TDAs open after two years will remain reasonably constant for the foreseeable future (at about nine-to-ten percent of issuances). This trend apparently reflects the higher priority attention business TDAs receive in Collection. However, changes in Collection operations are evidently causing this respective percentage figure to grow for IMF cases. In terms of the average number of weeks to dispose of TDA issuances, the available trend data indicate a fairly steady rate for both IMF and BMF--excluding the effects of open cases. For CY 1985 TDA issuances that were disposed within two years of being issued, these averages were 38.0 weeks for IMF and 33.6 weeks for BMF. Finally, considering some of the yield results for the TDA program, the data indicate that operational changes in Collection during the 1980's have had a beneficial impact on total revenue yield. There are also signs that total TDA yield will continue to grow in the future, beyond the $6.4 billion collected in FY 1987.

Notes and References

1. Data for this article were provided by the Office of the Assistant Commissioner (Collection), the Office of Evaluation and Research. The results in Figures 1, 2 and 6 are based on management information reports that are essentially enumerations. Data in Figures 3 and 4, and Table 1 are based on the Collection Research File, and reflect estimates from random samples. In addition, this article is actually the second "Document 6011" article to look at trends in taxpayer delinquents accounts; for the prior article see, B. Musselman, "Contrasts in BMF Versus IMF Payment Delinquency Trends", IRS Document 6011 (revised 2-85), pp. 61-69. Also, unresolved balance due cases below the minimum threshold for TDA issuance are referred to as "deferred accounts"; for a prior trend analysis of these cases see, E. Lowery and R. Geiman, "A Look At Deferred Accounts", IRS Document 6011 (revised 3-86), pp. 57-71.

2. For related trend analysis articles in the area of dispositions see, J. Friedman and R. Geiman, "Characteristics of Statute Expired Cases", IRS Document 6011 (revised 3-86), pp. 73-83, and; "Some Recent Trends in Currently-Not-Collectible Accounts", IRS Document 6011 (revised 3-87) pp. 71-79.

3. The CRF sample sizes and dates of subsequent analysis are:

CY of Sample (Year TDA Issued)	Number of BMF TDAs	Number of IMF TDAs	Date of Subsequent Analysis
1982	3,576	2,751	June 1984
1983	3,066	2,048	June 1985
1984	3,444	1,753	June 1986
1985	7,341	1,800	June 1987

4. IRS Document 6011 (revised 3-87) p. 78.

5. For a discussion of the Resources and Workload Management System see, D. Beazley and R. Geiman, "The Workload Priority and Selection System for Collection", IRS Document 6011 (revised 3-87) pp. 51-62.

Trends in Filing and Payment by Business Taxpayers

by
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This article explores trends in how timely business taxpayers file and pay taxes. Findings show an increasing trend in the timely filing and paying of taxes owed by the majority of business taxpayers. However, IRS makes a concerted effort to bring into full compliance those taxpayers delinquent in filing and paying their taxes (especially the income and employment taxes withheld from their employees' wages).

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Introduction

In the 1960s IRS began automated processing of individual and business tax returns in order to cope with a workload that was growing faster than the resources needed to handle the job. Two centralized files, the Individual Master File (IMF) and the Business Master File (BMF) were created to process individual income tax returns and the multitude of business tax returns (Forms 940, 941, 1065, 1120, and "Other" lower volume returns). Both master files were primarily adopted for various processing, accounting, and control purposes, but they have also served as important sources of management information.

This article explores trends in how timely business taxpayers file and pay their taxes. The data are based on the Collection Research File (CRF)--a sample of returns on the BMF. The CRF has been in existence only since calendar year (CY) 1982. Consequently, the trends examined cover only the 1982 to 1986 calendar year period.

BMF filers in this article refer to taxpayers who file a business return in one of the the following categories: Form 940 (Employers Annual Federal Unemployment (FUTA) Tax Return) is filed by employers to pay unemployment tax; Form 941 (Employer's Quarterly Federal Tax Return) is filed by all employers who are required to withhold income tax or employment taxes; Form 1065 (U.S. Partnership Return of Income) is filed by every partnership that engages in a trade or business; Form 1120--including Form 1120S--(U.S. Corporation Income Tax Return) is filed by U.S. corporations to report income, gains, losses, deductions, and credits.

The "Other" category of returns is composed of several returns, Forms 720, 942, 943, and 2290. Form 720 (Quarterly Federal Excise Tax Return) is filed to report excise taxes on the manufacture, sale, or use, of certain products, services, and facilities. Form 942 (Employer's Quarterly Tax Return for Household Employees) is used to report Social Security and income taxes withheld. Form 943 (Employer's

Annual Tax Return for Agricultural Employees) is filed to report Social Security and income taxes withheld. Finally, Form 2290 (Heavy Vehicle Use Tax Return) is used to report tax due on certain highway motor vehicles.

This article first presents time series data on the volume of selected business returns filed. Information is also presented on the amount of tax collected from business taxpayers in CY 1982 through 1986. Then, trends in compliance levels (i.e., filing a timely return and paying all taxes owed), the percentage of returns that results in a delinquent account, and delinquency rates by return type are presented. Finally, the article concludes with a look at trends in BMF cases relative to balance due first notices, including the average amounts due, the amounts collected, the type of payment used to close the account, and a brief look at the future.1/

Returns Filing Trends

The data in Table 1 show a general upward trend in the the number of business returns filed by type in CY 1982 through CY 1986. Form 941 filers represent approximately 60 percent of the business returns filed during this period. In addition to being the largest return by volume on the BMF, Form 941 (filed quarterly) also accounts for most of the gross revenue collected from all business returns (see Table 2 below). Form 1120, although nearly comparable in volume to "Other" returns, provides two to three times the gross revenue as this category of return.

The data in Table 2 provide a perspective on the amount of gross revenue collected relative to the trend of return volume. Note that the revenue receipts are reported on a fiscal year (FY) basis (i.e., FY 1982 represents the time period from October 1981 through September 1982) because this was the only reliable source available for such data. Total gross receipts for business returns show a general upward trend but tax law changes frequently disrupt the trend in revenue from specific forms. For example, in FY 1983 Form 1120 receipts declined because of tax reductions under the Economic Recovery Act of 1981. In FY 1983 through FY 1985, receipts from "Other" returns decreased significantly because the Surface Transportation Act of 1982 repealed several manufacturers' excise taxes (Form 720). This decrease was also augmented by the lowering of the federal highway use tax (Form 2290) by the Deficit Reduction Act of 1984. Finally, in FY 1985 and FY 1986, Form 940 receipts decreased because of credits paid to states for unemployment contributions.

These tax law changes generally obscure the relationship between the change in volume of returns filed and the amount of tax receipts. For example, the volume of total returns (Table 1) decreased moderately in 1984 over 1983 compared to a significant increase in revenue receipts. A part of this increase (excluding "Other") is attributed to additional revenue generated under the Tax Equity and Fiscal Responsibility and the Surface Transportation Acts of 1982. Another part of the increase probably stems from raising the Social Security taxable wage base, extending Social Security coverage and FICA taxes to Federal civilian employees newly hired after 1983 (Form 941), and increasing the unemployment tax rate and wage base (Form 940).

Table 1. Selected Business Returns Filed at the U.S. Level, Calendar Years 1982-1986 (Returns in Thousands)

Return Type	1982	1983	1984	1985	1986
Form 940	4,594 (14.8%)	4,632 (14.7%)	4,711 (15.0%)	4,813 (14.3%)	4,976 (14.5%)
Form 941	18,699 (60.2)	18,726 (59.4)	19,094 (60.7)	20,307 (60.2)	20,627 (60.2)
Form 1065	1,553 (5.0)	1,613 (5.1)	1,676 (5.3)	1,755 (5.2)	1,832 (5.3)
Form 1120	2,966 (9.6)	3,133 (9.9)	3,167 (10.1)	3,437 (10.2)	3,701 (10.8)
Other	3,238 (10.4)	3,436 (10.9)	2,824* (9.0)	3,415 (10.1)	3,216 (9.4)
Total	31,050 (100.0)	31,540 (100.0)	31,472* (100.0)	33,727 (100.0)	34,352 (100.0)

*The decrease was caused by delayed processing associated with implementing provisions of the Deficit Reduction Act of 1984.
Source: Research Division
Note: Figures in parentheses are percentages of total returns.

Table 2. Gross Revenue Collections from Selected BMF Returns, Fiscal Years 1982-1986 (Dollars in Millions)

Return Type	1982	1983	1984	1985	1986
Form 940	$ 3,357 (0.5%)	$ 4,312 (0.7%)	$ 6,052 (0.9%)	$ 5,672 (0.8%)	$ 5,661 (0.8%)
Form 941*	514,747 (83.6)	516,049 (84.8)	552,308 (83.9)	612,251 (85.0)	651,448 (85.0)
Form 1120	65,991 (10.7)	61,780 (10.1)	74,179 (11.3)	77,413 (10.8)	80,482 (10.5)
Other	31,890 (5.2)	26,740 (4.4)	25,775 (3.9)	24,703 (3.4)	28,590 (3.7)
Total	615,985 (100.0)	608,881 (100.0)	658,314 (100.0)	720,039 (100.0)	766,181 (100.0)

*Form 941 receipts include amounts withheld for individual income tax.
Source: Annual Report, IRS, 1982, 1983, 1984, 1985, and 1986.
Note: Figures in parentheses are percentages of total receipts.

BMF Filing and Payment Compliance

The compliance level of business returns (Table 3) shows an overall increasing trend from CY 1982 through CY 1986. A taxpayer in full compliance both files a timely return and pays all taxes when due. Form 1065, an information return, shows the highest rate of compliance (87 percent) of all business returns when averaged over five years. Form 941, the return with the largest population count and tax liability, shows the lowest compliance rate overall when compared to the other business return filers. The steady increase in overall compliance by business taxpayers over the five year period probably reflects actions IRS has taken (trust fund compliance programs, full compliance checks, and timely enforcement actions) to promote voluntary compliance.

Table 3. Percent of All Business and Selected Business Returns in Full Compliance, Calendar Years 1982-1986

Return Type	Percent in Full Compliance*				
	1982	1983	1984	1985	1986
All BMF Returns	75.0	76.0	79.4	83.5	85.6
Form 940	81.5	78.6	79.0	83.5	86.1
Form 941	68.6	71.5	77.4	83.6	85.5
Form 1065	87.9	88.4	87.3	84.9	89.9
Form 1120	78.7	76.3	81.0	79.0	85.0

*Full compliance means a return was filed timely and the tax liability paid when due.
Source: CRF BMF Quarterly Reports

Profile of Returns Receiving Balance Due Notices

The data in Table 4 provide some insight about business filers that receive balance due first notices. Balance due notices are sent when the returns are filed timely but incorrectly (math errors, examination adjustments, etc.) and when the tax balances are not paid timely. They are also sent on delinquent returns which are subsequently secured with a balance due for any of the previously mentioned reasons. As shown in Table 4, roughly 80 percent of the balance due notices issued in CY 1982 through CY 1986 were caused by factors other than a return filing delinquency. However, the percentage of balance due notices caused by a filing delinquency rose above the 1982 level in the 1983 through 1985 period. This increase coincides with the budget revenue initiative that provided IRS with additional staffing to raise revenue by addressing the rising inven-

tories of accounts receivable and return filing delinquencies and, to a lesser extent, expanding resources for examining returns. The percentages in 1986 drifted back toward those prevailing in 1982 before the revenue initiative.

Table 4. Distribution of BMF Balance Due First Notices Issued For Reasons Other Than a Delinquent Return, Calendar Years 1982-1986

Calendar Year	Notices Without a Delinquent Return: (Math Errors, Examination and Other Adjustments, and Tax Balances Not Timely Paid) (Percent)	Notices With a Delinquent Return (Percent)
1982	82.6	17.4
1983	79.8	20.2
1984	79.2	20.8
1985	79.5	20.5
1986	81.8	18.2

Source: CRF BMF Quarterly Reports

Table 5 below presents the incidence of business filing delinquency from CY 1982 through CY 1986. The delinquency rate is the percent of total taxpayers who did not file or request a filing extension by the return filing due date. Of all business return filers, corporations had the highest delinquency rates--from roughly 20 to 50 percent higher than all other business returns throughout the period. The delinquency rate for Forms 941 was by far the lowest--a result of the high priority given to enforcing the filing and payment of income and employment taxes withheld from employees.

In 1986, the return filing delinquency rate for all returns decreased by at least 44 percent. The decrease coincides with a 1985 decision that gave the service center collection branch (SCCB) the power to expand beyond its traditional role of serving notices and correspondence on delinquent taxpayers. SCCB was granted the authority to prepare and file a delinquent return for all taxpayers, to assess the tax due and to initiate the collection process. Taxpayer knowledge that SCCBs were aggressively using this new authority (and charging taxpayers interest and late filing and payment penalties from an early date) appears to have induced significantly improved filing compliance.

Table 5. Return Filing Delinquency Rates for Business Returns, Calendar Years 1982-1986

Return Type	Return Filing Delinquency Rates (percent)				
	1982	1983	1984	1985	1986
All Returns	7.6	8.1	7.1	6.8	4.3
Form 940	8.7	10.0	8.0	6.1	4.0
Form 941	6.8	7.0	5.7	5.6	3.5
Form 1065	6.8	7.9	9.6	11.2*	4.5
Form 1120	12.0	13.8	11.5	14.0*	8.3

*The increase reflects systemic processing problems in 1985 that erroneously categorized returns as delinquent.
Source: CRF BMF Quarterly Reports

Trends in Collecting Delinquent Business Taxes

The data in Table 6 below show an upward trend in the average dollar amount owed on BMF balance due first notices. The average amount on balance due notices increased from $1,114 in 1982 to $3,181 in 1986. This represents nearly a 200 percent increase in the average dollar amount due. The average amount collected on the balance due accounts increased by less than 50 percent from CY 1982 ($658) to CY 1986 ($929). During this period, the amount paid as a percentage of the first notice amount due decreased from 59 percent in 1982 to 29 percent in 1986. This analysis suggests that the difficulty and cost of collecting a balance due amount increases as the size of the delinquent account increases.

Table 6. Average Amount of Balance Due First Notices, Average Payment Collected, and Payment as a Percent of Notice Amount, Calendar Years 1982-1986

Calendar Year	Average First Notice Amount	Average Payment Collected	Payment as Percent of Notice Amount
1982	$1,114	$ 658	59.1%
1983	1,187	624	52.6
1984	2,064	754	36.5
1985	3,222	1,020	31.7
1986	3,181	929	29.6

Source: CRF BMF Quarterly Reports

The data in Table 7 also indicate that a smaller percentage of cases are closed by full payment as the average dollar amount of balance due first notices increases. For example, when the balance due amount increased from $1,187 in CY 1983 to $2,064 in CY 1984, a corresponding decrease occurred in cases closed by full payment. In fact, the percentage of taxpayers disposing of their tax liability by full payment decreased from 82 to 80 percent.

The Service makes additional efforts to secure payment in cases not initially closed by full payment. Accounts with a lower dollar amount due are placed in the deferred accounts program and monitored by the IRS Master File system. Under certain circumstances, some delinquent accounts are classified as currently-not-collectible (CNC). For example, a business which is delinquent in paying its taxes may have become a "defunct/insolvent" corporation or one that is bankrupt. Reporting an account in CNC status does not permanently close out the delinquency. The case is placed in a special computer-monitored status for inactive accounts receivable.2/ The disposition of cases in these categories show a mixed trend. The miscellaneous disposition categories--claims, offers-in-compromise, criminal investigations, and litigation--and cases open (both with and without an installment agreement) show a generally upward trend, but the movement upward is erratic. A master file (MF) offset (i.e., computer application of any credits or refunds to debts) can be used with each type of disposition to secure all payments due.

Table 7. Distribution of Balance Due First Notices by Type of Disposition, Calendar Years 1982-1986

Type of Disposition	Distribution of Balance Due First Notices (percent)				
	1982	1983	1984	1985	1986
Full Paid	81.3	81.7	80.0	77.2	77.3
Deferred	10.8	9.6	8.7	9.0	10.7
Currently Not Collectible	1.4	2.3	1.7	2.3	1.9
Miscellaneous Closures	2.9	3.0	5.2	8.4*	4.4
Open With Installment Agreement	0.3	0.5	0.1	1.3	1.6
Open--No Installment Agreement	3.4	2.8	4.2	3.0	5.5

*Increase was caused by erroneous service center processing which resulted in cases being disposed of by taxpayer claims.
Source: CRF BMF Quarterly Reports

Toward Improved Operations

During the past decade, the IRS has made a concerted effort through its operational procedures to improve voluntary compliance by business taxpayers and to increase revenue yield. For example, the Federal Deposit Tax (FTD) System--the mechanism used by some five million businesses in the U.S. to make trust fund and income tax withholding payments--was plagued by numerous processing problems. A substantial number of unpostable returns caused the Service to send erroneous notices to taxpayers and needless payment tracers to financial institutions.

The Service applied its new quality improvement process to the FTD system, identified the root causes of the problems, and developed a set of comprehensive solutions. Problems in the FTD system were corrected by: 1) requiring the verification of an employer's name and identification number before a FTD coupon book is mailed, 2) using this same approach before issuing over-the-counter coupon books, and 3) providing additional training to employees who process the FTDs. After making these quality improvements, the FTD weekly processing error rate was reduced significantly from three percent of total coupons to one-tenth of one percent.

In continuing its efforts to improve compliance, the Service has initiated a program to identify business nonfilers and self-employed individuals by using state data bases and commercial publications. Managers in the field are encouraged to meet with their state counterparts to exchange ideas, to share information, and to coordinate joint programs. IRS is also making a concerted effort to prevent the pyramiding of trust fund liabilities and is moving toward an orderly transition to the Automated Substitute for Return (ASFR) program in its field operations. ASFR will provide an automated basis for Collection to prepare and file returns for delinquent taxpayers who refuse to file their own return.

Managers are also assigning top priority to identifying and working cases that have a larger potential tax yield. The Resources and Workload Management System (RWMS), formerly referred to as the Workload Priority and Selection System (WPSS), is one of the programs that IRS initiated to effectively manage the growing accounts receivable inventory and to increase collections. The Automated Collection System (ACS), which replaced the collection office function in 1984, now collects nearly two-thirds of all delinquent accounts at a lower cost. Overall compliance among business taxpayers has increased steadily over the past five years. Innovative approaches the Service has made during the past decade, along with those planned for the future, should provide the foundation for continued improvement in the filing and payment compliance of business taxpayers.

Notes and References

1. This article draws heavily on information obtained from the Collection Research File (CRF) to examine trends in filing and payment of taxes by business taxpayers. The CRF, a special research tool based on sample data, is used by the Office of the Assistant Commissioner (Collection) to obtain management information not readily available from other operational reports.

2. J. Friedman and R. Geiman, "Some Recent Trends in Currently-Not-Collectible Accounts," Trend Analyses and Related Statistics, (IRS Document 6011, revised 3-87), p. 72.

Trends in Filing Required Information Returns

by
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The results of Taxpayer Compliance Measurement Program (TCMP) surveys, beginning with a 1966 survey of delinquent returns, suggest that compliance in the filing of required information returns has varied a great deal. This variation was found not only by the type of entity required to file information returns but also by the type of information return required. Variations in filing compliance were also found by size of business required to file information returns. In general, individuals required to file information returns were the least compliant and corporations the most compliant. In terms of the types of information returns required to be filed, taxpayers were the least compliant in filing Form 1099-MISC (Statement of Recipients of Miscellaneous Income) which is used to report miscellaneous income such as rents, royalties and prizes totaling at least $600, and Form 1099-NEC (Statement of Recipients of Non-Employee Compensation). NEC income was included on Form 1099-MISC prior to tax year 1979 and after tax year 1982. The importance of these two information returns cannot be overemphasized. They are used to report self-employment income, one of the types of income least likely to be reported. In addition, these two forms account for over 75 percent of the total dollars, including interest and dividends, reported on Forms 1099 information returns required to be filed by the taxpayers covered by our TCMP surveys.

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Background

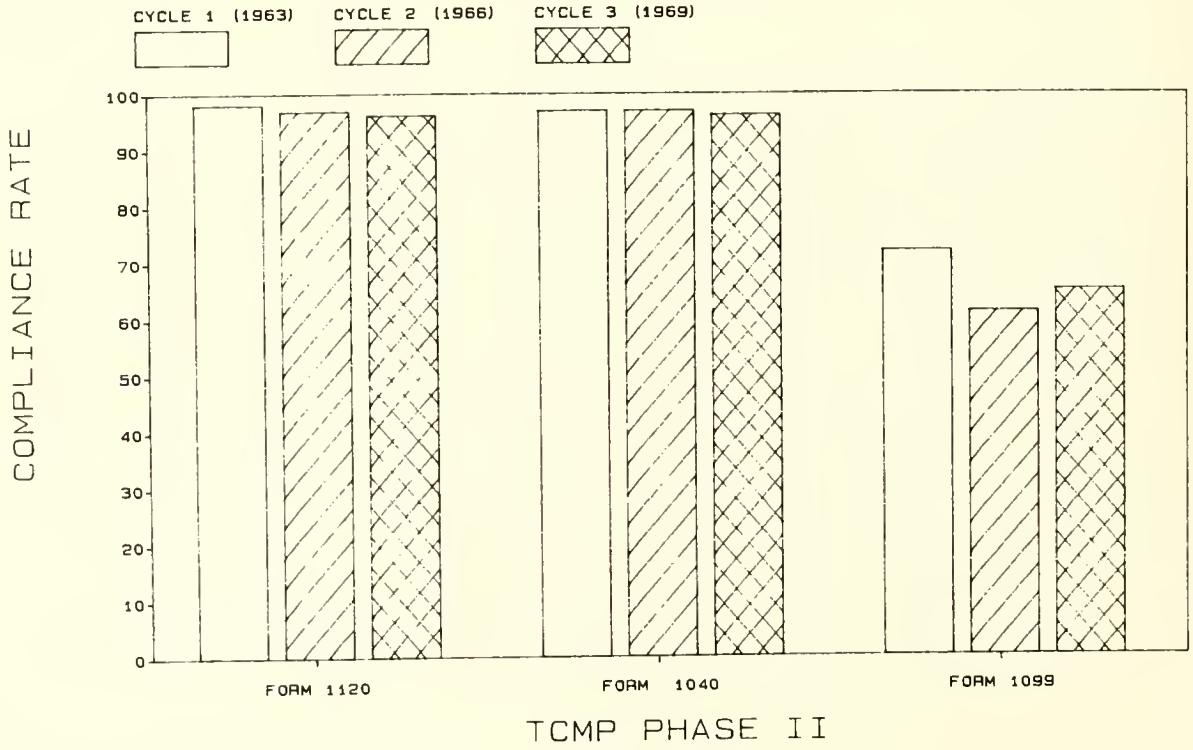
The Taxpayer Compliance Measurement Program (TCMP), developed in 1962, is the Service's primary vehicle for measuring taxpayers' compliance with the requirements for the filing of an accurate return. TCMP involves selecting a random sample of tax returns filed and then subjecting these returns to a detailed line-by-line examination. In the case of a survey to measure compliance with filing requirements, a random sample of entities is selected and thoroughly investigated to determine if all required returns, including information returns, were filed. As part of the examination or investigation process for some of the TCMP surveys, data were collected on filing of information returns as well as the dollar amounts required to be reported on those information returns. These data were not collected for all surveys and the amount of detail varied from survey to survey. The information returns of primary interest were the Forms 1099, statements of recipients of various types of non-wage income. As will be noted in various tabulations and in the narrative, some of the surveys distinguished between the various types of Forms 1099 and others did not.

Filing Compliance, Early TCMP Surveys Covering Tax Years 1963-1969

The earliest data available on information returns filing are from surveys of delinquent returns for tax years 1963, 1966, and 1969. These surveys covered nonfarm businesses that were either on the Master Files or visible to Revenue Officers on an area canvas. The 1963 survey involves a sample of approximately 27,000 nonfarm businesses and was conducted in the Southwest Region. The 1966 survey also covered nonfarm businesses but involved a sample of approximately 114,000 returns from Southeast, Central, Mid-Atlantic, and Southwest Regions. The third delinquent returns survey (TY 1969) was conducted on a nationwide basis. A sample of approximately 70,000 nonfarm business entities were investigated for this survey.

Figure 1 presents data from these three early surveys on the filing of delinquent returns. One trend is immediately obvious: there is a significant difference between the filing compliance rate for regular income tax returns and the filing compliance rate shown for required information returns. This trend holds for the six year period covered by the three surveys. While the filing compliance rate for income tax returns varies from a high of 98.2 percent for corporation returns (Forms 1120) in 1966 to a low of 96.3 percent for these same returns in 1969, the compliance rates for information returns are 73.4 percent in 1963 and 63.2 percent in 1966.

FIGURE 1. RETURN FILING COMPLIANCE BY TYPE OF RETURNS



In addition to the delinquent returns surveys conducted in 1963, 1966, and 1969, a taxpayer compliance survey of small corporation returns processed in 1969 was conducted. This involved examining a sample of approximately 16,200 corporate returns with assets of $1 to $1 million. Inactive corporations and corporations having no balance sheet were excluded. This survey showed that corporations that were required to file information returns had a filing compliance rate of 78.1 percent. This compares to a 67.6 percent filing compliance rate for nonfarm business returns from the 1969 delinquent returns survey.

A TCMP survey of a sample of 11,400 exempt organizations filing calendar year 1973 and fiscal year 1974 Forms 990 and Forms 990-PF was conducted. The organizations surveyed were private foundations and public charities exempt under IRC 501(c)(3), and certain associations exempt under IRC 501(c)(4). Although detailed data on delinquency filing rates for information returns was not obtained, the survey did show that, of the weighted estimate of 15,000 organizations required to file Forms 1099, 6,000 (or 40 percent) were either totally or partially delinquent in filing, a compliance rate of 60 percent. Although this filing compliance rate is low, it does seem to be consistent with rates from the Forms 1040 and 1120 surveys.

Study of Recipients of Miscellaneous Income--1977

As part of a 1977 TCMP survey of corporations having assets of $1 to $10 million or filing no balance sheet, an in-depth study was made of compliance with the requirements for filing Forms 1099-MISC information returns. An estimated total of over 753,800 corporations were payers of Form 1099-MISC income in 1977. An estimated 61.6 percent of these corporations did not fully comply with the requirements for filing information returns. Included in the 61.6 percent of these corporations were 10.6 percent that only partially complied. As can be seen in Table 1 and Figure 2, this means that only 38.6 percent of all corporations with a requirement to file Forms 1099-MISC information returns complied fully.

Table 1. Number of Corporations Complying with Form 1099-MISC Filing Requirements, 1977 (Corporations with Assets From $1 to $10 Million or Filing No Balance Sheet)

	Number of Corporations	Percent of Total Corporations	Percent of Corporations with Filing Requirements
Total Corporations	1,642,171	100.0	
With a 1099-MISC Filing Requirement	753,856	45.9	100.0
Fully Complying	291,296	17.7	38.6
Partially Complying	79,594	4.8	10.6
Not Complying	384,748	23.4	51.0

Another interesting finding of this study is shown in Table 2. These data show that these same corporations voluntarily filed 73 percent of all required Form 1099-MISC information returns and reported 73.7 percent of the miscellaneous income paid. Thus the 49.2 percent of the corporations that fully or partially complied with the filing requirements filed 73 percent of the total number of Forms 1099-MISC required. In addition, these information returns accounted for 73.7 percent of the total income paid. The apparent discrepancy between the data shown in Table 1 and that shown in Table 2 can be explained by looking at Form 1099-MISC compliance data by size of corporation.

Table 2. Forms 1099-MISC That Should Be Filed and Miscellaneous Income Reported, 1977 (Corporations with Assets From $1 to $10 Million or Filing No Balance Sheet)

Corporations with Assets From $1 to $10 Million or Filing No Balance Sheet

	Forms 1099-MISC Required		MISC Income	
	Number	Percent	Amount ($000)	Percent
Total Forms 1099-MISC Required	5,174,717	100.0	30,107,749	100.0
Voluntarily Filed	3,775,691	73.0	22,199,107	73.7
Delinquent	1,399,026	27.0	7,908,641	26.3

Corporations with Assets Less than $1 million

	Forms 1099-MISC Required		MISC Income	
	Number	Percent	Amount ($000)	Percent
Total Forms 1099-MISC Required	2,744,321	100.0	19,717,717	100.0
Voluntarily Filed	2,624,850	95.6	13,990,552	71.0
Delinquent	119,471	4.4	5,727,165	29.0

No Balance Sheet Corporations

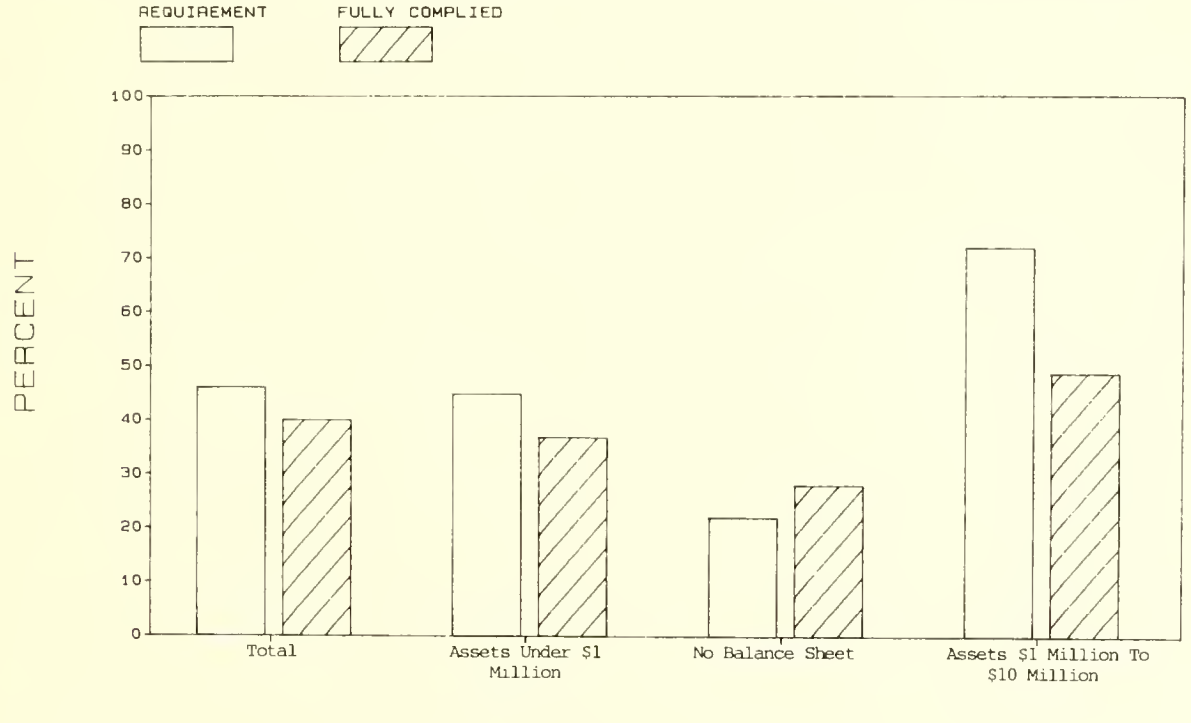
	Forms 1099-MISC Required		MISC Income	
	Number	Percent	Amount ($000)	Percent
Total Forms 1099-MISC Required	76,545	100.0	348,499	100.0
Voluntarily Filed	41,361	54.0	200,331	57.5
Delinquent	35,184	46.0	148,168	42.5

Corporations with Assets $1 Million Under $10 Million

	Forms 1099-MISC Required		MISC Income	
	Number	Percent	Amount ($000)	Percent
Total Forms 1099-MISC Required	1,353,851	100.0	10,041,533	100.0
Voluntarily Filed	1,109,480	81.9	8,008,224	79.8
Delinquent	244,371	18.1	2,033,309	20.2

Figure 2 presents Form 1099-MISC data by asset size of taxpaying corporation. In reviewing these data, it is obvious that the larger the corporation, the more likely that it will be required to file Form 1099-MISC. Note that 71.5 percent of the corporations with assets of from $1 million to under $10 million had a Form 1099-MISC filing requirement while only 45.2 percent of the corporations, with assets under $1 million were required to file Form 1099-MISC information returns. For corporations with no balance sheet, only 22.3 percent were required to file Forms 1099-MISC. These data also show that compliance with the filing of required information returns also increases with the size of the corporation. For corporations with assets under $1 million with a requirement for filing Forms 1099-MISC, 37.6 percent fully complied (52.9 percent did not comply). Corporations with assets of from $1 million to $10 million had a 48.5 compliance rate (33.5 percent were noncompliant). The compliance rate for corporations showing no balance sheet was only 28.2 percent (a noncompliance rate of 65 percent). The compliance rates and noncompliance rates do not equal 100 percent because some corporations were only partially compliant.

FIGURE 2. FORM 1099-MISC FILING REQUIREMENT AND COMPLIANCE, 1977 (CORPORATIONS WITH ASSETS FROM $1 TO $10 MILLION AND FILING NO BALANCE SHEET)

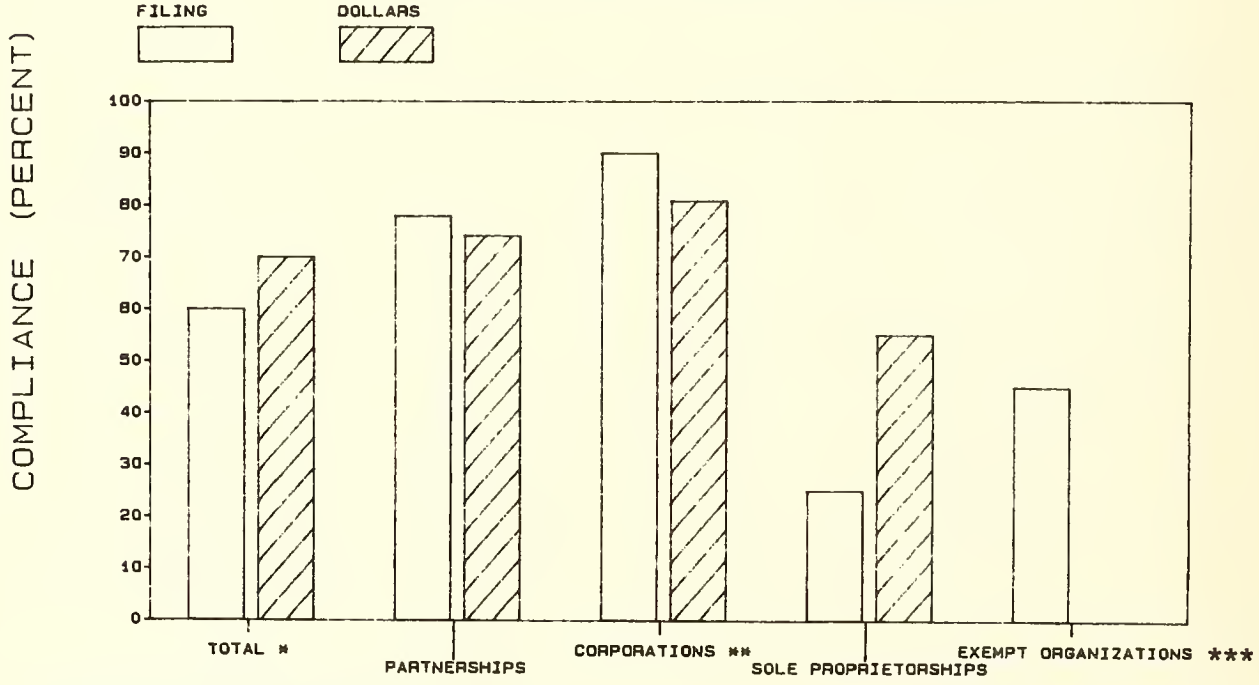


Filing Compliance, Recent TCMP Surveys

Recent surveys, which include questions on the filing of required information returns, include the individual returns surveys of 1979 and 1982, the 1980 corporation survey, 1981 partnership returns survey, and an exempt organizations survey covering organizations active in 1979.

All of these surveys continue to show the trend that was established by data from the earlier surveys. Compliance with the requirement for timely filing of required information returns continues to be a problem. Figure 3 presents data on compliance with Form 1099 filing requirements and the reporting of dollar amounts on these forms by type of business organization. A trend recognized earlier becomes apparent from the figure. If it can be assumed that, in general, sole proprietorships are smaller than partnerships; and partnerships are, in general, smaller than corporations; then the relationship between compliance levels and asset size of business holds true. Figure 3 shows that this relationship is true not only for compliance with filing information returns, but also for compliance with reporting required dollar amounts on the information returns. On both dimensions, the larger the taxpaying entity, the higher the level of compliance. In terms of filing requirements, the compliance levels range from a low of 25.5 percent for filers of Form 1040 (sole proprietorships) to a high of 91.1 percent for filers of Form 1120 (corporations). In terms of compliance with the reporting of required dollar amounts, the rates range from a low of 52.4 percent, again for filers of Form 1040, to a high of 82.5 percent for corporations.

FIGURE 3. FORM 1099-MISC COMPLIANCE REPORTING DOLLAR AMOUNTS



* EXCLUDES DOLLARS FROM FORMS 990 & 990-PF
** CORPORATIONS WITH ASSETS $0 > $10 MILLION
*** DOLLAR AMOUNT NOT COLLECTED

Although the Form 1040 filers were only 25.5 percent compliant in filing required information returns, they were 52.4 percent compliant in reporting the required dollars. Even though both compliance rates are low, the difference between them is startling when compared to the other types of filers. Corporations, on the other hand, even though very compliant on both dimensions, are more compliant in filing the required information returns (91.1 percent) then they are in reporting the correct dollar amounts (82.5 percent). Data for exempt organizations filing Forms 990 and Forms 990-PF were collected only to show compliance with the filing of information returns, not on dollar amounts to be reported on those returns. The compliance rate for filing required information returns of 43.2 percent may be compared with the rate of 60 percent found in the earlier survey of exempt organizations filing Forms 990 and Forms 990-PF for calendar year 1973 and fiscal year 1974.

Table 3 presents Form 1099 compliance data for all five of the recent TCMP surveys (i.e. the 1980 corporation, 1981 partnership, 1979 individual, 1982 individual and the exempt organization TCMP survey). Compliance rates for the filing of information returns and reporting of dollar amounts are shown separately by type of information return (except for exempt organizations, where the data is presented for total Forms 1099 only). In reviewing the data in Table 3, one fact stands out--the amount of money reported on two of the information returns (Forms 1099-MISC and 1099-NEC). For corporations, Forms 1099-MISC and 1099-NEC together account for over 76 percent of the total dollars required to be reported on all information returns by these corporations. However, these forms account for only 30 percent of the total number of information returns required to be filed by these corporations. For filers of 1982 individual income tax returns, the comparable figures are 85 percent for the required dollars and 88 percent of the total number of returns required. Forms 1099-MISC and 1099-NEC for partnerships account for approximately 76 percent of the required dollars and 50 percent of the required information returns. These statistics emphasize the importance of these two types of information documents.

In terms of compliance rate by type of information document, the trend observed earlier is clearly demonstrated. For all types of information documents required to be filed (except the catch-all "other", which includes all other Forms 1099 not specifically listed), corporations show the highest compliance rate both in terms of documents filed and dollars reported, and filers of individual income tax returns show the lowest compliance rates. Table 3 also shows that there does not seem to be any trend by type of organization other than size and type of information returns required. In fact, examination of the data only seems to confirm the one major trend identified earlier--that size of taxpaying entity and compliance rate seem to go together. This conclusion is based on the assumption made earlier, that, in general, sole proprietorships are smaller than partnerships, and partnerships, in general, are smaller than corporations. These data show an extreme range of compliance rates that do not seem to be associated with any particular variable or variables. In terms of filing compliance, the rates run from a high of 99.0 percent for Forms 1099-OTHER filed by 1981 partnerships, to a low of 18.3 percent for Forms 1099-NEC filed by 1979 individuals.

Table 3. Forms 1099 Compliance, by Type of Business Organization and by Type of Form 1099 Filed

1980 Corporation Returns (Form 1120)
(No Balance Sheet, Assets $1 - $10 Million)

	Number Required	Number Filed	Compliance Rate (percent)	Amount Required ($000)	Amount Reported ($000)	Compliance Rate (percent)
Form 1099-INT	7,223,476	7,140,900	98.9	2,238,710	1,870,550	83.6
Form 1099-MISC	1,418,380	12,771,501	89.6	12,734,499	10,448,287	82.0
Form 1099-NEC	2,229,815	1,442,812	64.7	15,789,001	12,440,801	78.8
Form 1099-R	79,887	73,396	91.9	686,655	528,451	77.0
Form 1099-DIV	1,020,760	962,385	94.3	1,614,403	1,482,779	91.8
Form 1099-OTHER	376,936	365,104	96.9	4,015,526	3,816,616	95.0
Total	12,349,254	11,256,098	91.1	37,078,794	30,587,484	82.5

1981 Partnership Returns (Form 1065)

	Number Required	Number Filed	Compliance Rate (percent)	Amount Required ($000)	Amount Reported ($000)	Compliance Rate (percent)
Form 1099-INT	402,442	351,242	87.3	1,252,974	867,936	69.3
Form 1099-MISC	342,637	226,813	66.2	3,706,633	3,053,713	82.4
Form 1099-NEC	576,010	347,888	60.4	4,038,489	2,743,779	67.9
Form 1099-R	37,381	22,875	61.2	301,100	202,267	67.2
Form 1099-OTHER	489,154	484,427	99.0	878,710	852,839	97.1
Total	1,847,624	1,433,245	77.6	10,177,906	7,720,534	75.9

1979 Individual Returns (Form 1040)

	Number Required	Number Filed	Compliance Rate (percent)	Amount Required ($000)	Amount Reported ($000)	Compliance Rate (percent)
Form 1099-F	82,725	50,206	60.7	349,707	231,698	66.3
Form 1099-MISC	1,102,162	541,926	49.2	4,323,970	2,462,439	56.9
Form 1099-NEC	1,435,360	600,521	41.8	5,589,377	2,821,232	50.5
Total	2,620,247	1,192,653	45.5	10,263,055	5,515,369	53.7

1982 Individual Returns (Form 1040)

	Number Required	Number Filed	Compliance Rate (percent)	Amount Required ($000)	Amount Reported ($000)	Compliance Rate (percent)
Form 1099-INT	928,259	254,862	27.5	1,348,681	458,604	34.0
Form 1099-MISC	2,454,491	1,015,285	41.1	6,227,000	3,315,750	26.5
Form 1099-NEC	7,208,857	1,319,471	18.3	10,422,737	5,504,273	52.8
Form 1099-R	156,201	64,753	41.5	546,216	270,966	49.6
Form 1099-OTHER	271,716	160,310	59.0	1,020,433	701,564	68.8
Total	11,019,524	2,814,681	25.5	19,565,067	10,251,157	52.4

Table 3. (Continued) Forms 1099 Compliance, by Type of Business Organization and by Type of Form 1099 Filed

Exempt Organizations (Forms 990 and 990PF)

(Exempt Under Sec. 501(c)(3) - Section 501(c)(8) and Active in 1979)

	Number Required	Number Filed	Compliance Rate (percent)	Amount Required ($000)	Amount Reported ($000)	Compliance Rate (percent)
Form 1099	59,468	25,701	43.2	78,893	N/A	N/A

Conclusion

It is apparent that filing compliance rates for Forms 1099 have not improved over the years. Only 61.5 percent of required Forms 1099 information returns were filed. This 61.5 percent of the required Forms 1099 accounted for 72.7 percent of the required dollars. Another consistent trend is that shown by the Form 1099-DIV data. The data show that this information return has high compliance rates both in terms of filing and in terms of required dollars reported. Since these information returns are filed only by corporations, these data bear out the relationship between size of taxpaying entity and compliance that has been a consistent trend over the years of the TCMP surveys.

One further conclusion can be drawn from the data presented previously. It is clear that the two information returns mentioned earlier, Form 1099-MISC and Form 1099-NEC, are very important. They account for over 56 percent of the total Forms 1099 required to be filed. Even more important is that those two information returns account for almost 80 percent of the dollars required to be reported for the population of returns which were sampled. Because of the importance of these returns and of all information returns in general, and because of the increased importance of the Service's information returns matching program, steps are being taken to increase compliance in both the filing of information returns and in the reporting of dollar amounts.

Trends in Missing or Invalid TINs on Information Documents

by
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Increased penalty and backup withholding provisions of the Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA) and the Interest and Dividend Tax Compliance Act of 1983 (IDTCA) were aimed at reducing the incidence of information documents filed by payers of income with missing or invalid taxpayer identification numbers (TINs). Anomalies in the available time series data on numbers of missing or invalid TINs make it difficult to ascertain the effectiveness of these provisions. In the case of wage documents, where the performance of payers in supplying valid TINs has historically been good, the effects of TEFRA and IDTCA appear to have been minimal. In the nonwage document area, there has been a noticeable reduction in the incidence of documents with missing TINs. However, this seems to have been accompanied by an increase in the number of nonwage documents filed with invalid TINs.

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Background

One of the Internal Revenue Service's major compliance programs is the Underreporter Program. This program, which is part of the Information Returns Program (IRP), matches incomes reported by taxpayers on their tax returns against income data reported to IRS by payers of income. Payers report these data on information documents such as the Form W-2 for wage income and the Form 1099 for nonwage income such as interest or dividends. For IRS to match any third-party information document against the proper tax return, however, it is important that the information document have a correct taxpayer identification number (TIN). In the case of incomes received by individuals, the TIN is generally the Social Security Number (SSN).

In the early 1980s, legislation was enacted with the aim of reducing the incidence of information documents filed with missing or invalid TINs. The major legislative efforts in this regard were the Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA) and the Interest and Dividend Tax Compliance Act of 1983 (IDTCA). These acts increased existing monetary penalties and imposed backup withholding for various kinds of infractions involving missing or invalid TINs. The purpose of this study is to examine time series data on information documents with missing or invalid TINs in order to determine what effect TEFRA and IDTCA might have had in improving compliance in this area.

TEFRA Provisions

Section 316 of the Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA) increased from $5 to $50 per infraction existing monetary penalties on: 1) payees who did not furnish their payers with correct TINs, and 2) payers who did not include the payee's TIN on any information document. The penalty for taxpayers failing to include their TINs on their tax returns remained at $5. These penalties did not apply, however, if the failures were due to "reasonable cause" rather than willful neglect, and the total amount of penalties imposed on any one party could not exceed $50,000 in a calendar year. These provisions were effective for returns with filing due dates after December 31, 1982.

IDTCA Provisions

Section 105 of the Interest and Dividends Tax Compliance Act of 1983 (IDTCA) reaffirmed the penalty structure set up in Section 316 of TEFRA. However, in the case of payers of interest or dividends who failed to include a valid TIN on an information document, Section 105 of IDTCA: 1) rescinded the $50,000 per year penalty limit, and 2) provided that they could avoid the $50 per infraction penalty only if they could show that they had exercised "due diligence" in attempting to satisfy the TIN reporting requirement. The requirement that payers of interest or dividend income show due diligence made it harder for payers supplying invalid or missing TINs to avoid the $50 penalty than had the TEFRA reasonable cause penalty exception. These changes were effective for payments made after December 31, 1983.

Section 104 of IDTCA provided for "backup withholding" on recipients of interest or dividend income who failed to provide their payers with valid TINs. It required payers to withhold tax at a rate of 20 percent from payees who did not furnish their payers with TINs, or who supplied obviously invalid TINs. Payers were also required to withhold tax if notified by the IRS that a payee had submitted an incorrect TIN. These backup withholding requirements were also effective for payments made after December 31, 1983.

Impact of TEFRA and IDTCA

Because the TEFRA penalty provisions were first effective for information documents filed in 1983 for tax year 1982 incomes, with the IDTCA penalty and backup withholding provisions becoming effective one year later, one would expect any impact of these measures on missing or invalid TINs to be evident in the data for 1982 at the earliest. One might also expect any impact to be cumulative with the passage of time, with the data for 1983 and 1984 showing progressively lower incidences of missing or invalid TINs. Do the available data support these hypotheses?

Missing or Invalid TIN Time Series Data

The missing or invalid TIN data used in this analysis were developed during the processing of information documents for IRS' Information Returns Program (IRP). Wage documents are processed by the Social Security Administration (SSA), while nonwage documents are processed by IRS. Data are presented separately for wage and nonwage information documents for each of the years 1975 through 1984.

Table 1 shows that the total number of wage documents received by SSA has remained fairly constant over the period 1975 through 1984, averaging about 180 million documents per year. By contrast, the number of nonwage documents received by IRS has increased monotonically over the period, with more than twice as many filed for tax year 1984 as were filed for tax year 1975. Table 2 shows that the percentage of information documents filed with missing or invalid TINs has been consistently lower for wage documents than for nonwage documents. For nine of the ten years shown, wage documents with missing or invalid TINs comprised between three and four percent of the total received. The low was 2.1 percent for tax year 1983, while the high was 3.9 percent for tax year 1980. By contrast, the corresponding percentage for nonwage documents was in the teens for all but the last two years of the 1975 through 1984 period, with a low figure of 8.0 percent for tax year 1984.

Patterns with respect to the separate data series for invalid and missing TINs are less apparent, however. This is at least partly due to the fact that the time series data for both wage and nonwage information documents each have one year for which the data seem anomalous. Figure 1 presents data on the percentages of wage documents with missing or invalid TINs, while Figure 2 presents the same data for nonwage information documents. In the case of Figure 1, the anomalous year is 1981, a year for which the percentages of wage documents with missing or invalid TINs appear to have been reversed when compared to the figures for adjacent years. In the case of Figure 2, the anomalous year is 1982, a year for which the percentage of nonwage documents with invalid TINs was abnormally high in comparison to the data for adjacent years. These anomalies make it more difficult to ascertain any impact of TEFRA and IDTCA on the filing of information documents with missing or invalid TINs.

Wage Documents

Figure 1 shows that the percentage of wage information documents with missing TINs declined sharply between 1981 and 1982; the series declined again between 1982 and 1983 before rising between 1983 and 1984. As noted above, however, the 1981 figure for the percentage of wage documents with missing TINs was anomalously high; thus, the sharp decline in this percentage between 1981 and 1982 may not in fact be a reflection of the impact of TEFRA and IDTCA. By contrast, the percentage of wage documents with invalid TINs shows a sharp increase between 1981 and 1982, followed by a substantial decline between 1982 and 1983 and a slight increase from 1983 to 1984. The increase in the invalid TIN percentage between 1981 and 1982, however, probably reflects to some extent the fact that the 1981 percentage was anomalously low.

Table 1. Numbers of Wage and Nonwage Information Documents Filed with Missing or Invalid TINs (In Millions)

Item	Tax Year									
	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Total documents received	462,372	471,764	494,587	506,697	552,763	576,256	610,975	618,702	678,514	777,063
Total invalid or missing TINs	43,371	44,786	42,063	40,917	44,523	53,320	56,589	74,606	50,447	52,685
Total invalid TINs	17,465	16,874	16,153	18,267	21,791	24,303	25,987	45,557	33,265	42,439
Total missing TINs	25,906	27,912	25,910	22,650	22,732	29,017	30,602	29,049	17,182	10,246
Wage documents received	182,463	178,275	183,321	175,444	188,355	177,394	184,311	171,413	182,668	185,243
Wage invalid or missing TINs	5,744	5,949	5,862	6,376	7,014	6,867	6,183	5,912	3,905	5,532
Wage invalid TINs	3,657	3,879	3,800	4,342	4,970	4,791	2,136	4,131	2,439	3,219
Wage missing TINs	2,087	2,070	2,062	2,034	2,044	2,076	4,047	1,781	1,466	2,313
Nonwage documents received	279,909	293,489	311,266	331,253	364,408	398,862	426,664	447,289	495,846	591,820
Nonwage invalid or missing TINs	37,627	38,837	36,200	34,540	37,509	46,453	50,406	68,694	46,542	47,152
Nonwage invalid TINs	13,808	12,995	12,352	13,925	16,821	19,512	23,851	41,426	30,826	39,220
Nonwage missing TINs	23,819	25,842	23,848	20,615	20,688	26,941	26,555	27,268	15,716	7,932

Table 2. Percentages of Wage and Nonwage Information Documents Filed with Missing or Invalid TINs

Item	Tax Year									
	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Total invalid or missing TINs	9.4	9.5	8.5	8.1	8.0	9.2	9.3	12.1	7.4	6.8
Total invalid TINs	3.8	3.6	3.3	3.6	3.9	4.2	4.3	7.4	4.9	5.5
Total missing TINs	5.6	5.9	5.2	4.5	4.1	5.0	5.0	4.7	2.5	1.3
Wage invalid or missing TINs	3.1	3.4	3.2	3.7	3.7	3.9	3.4	3.4	2.1	3.0
Wage invalid TINs	2.0	2.2	2.1	2.5	2.6	2.7	1.2	2.4	1.3	1.8
Wage missing TINs	1.1	1.2	1.1	1.2	1.1	1.2	2.2	1.0	0.8	1.2
Nonwage invalid or missing TINs	13.4	13.2	11.7	10.4	10.3	11.7	11.8	15.4	9.4	8.0
Nonwage invalid TINs	4.9	4.4	4.0	4.2	4.6	4.9	5.6	9.3	6.2	6.6
Nonwage missing TINs	8.5	8.8	7.7	6.2	5.7	6.8	6.2	6.1	3.2	1.3

Figure 1. Percentages of Wage Information Documents Filed with Missing or Invalid TINs

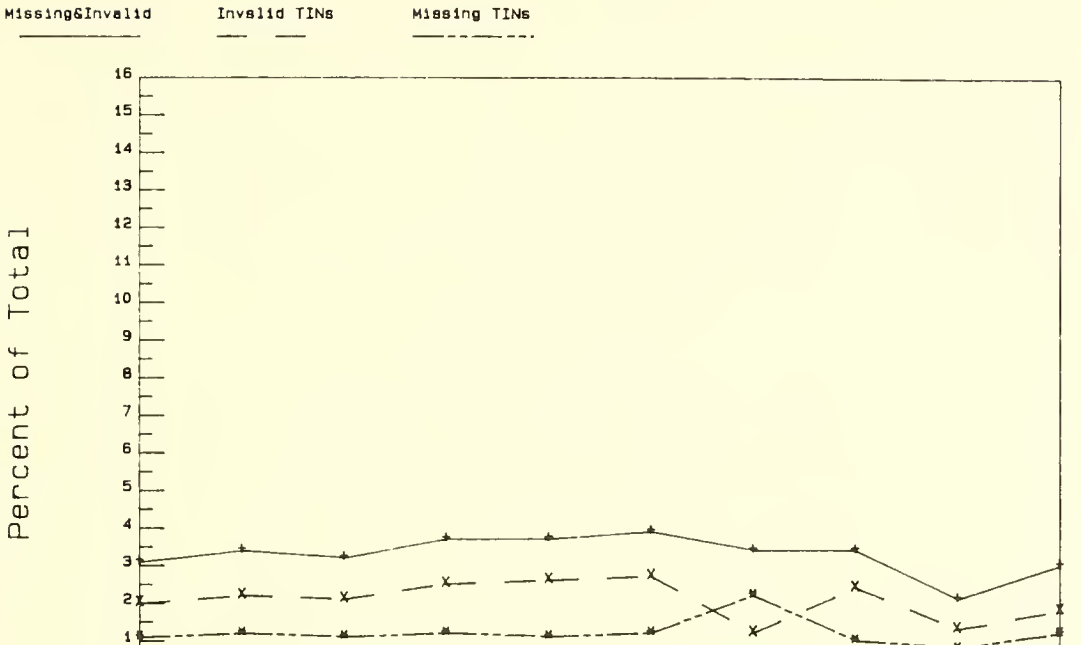

Figure 2. Percentages of Nonwage Information Documents Filed with Missing or Invalid TINs

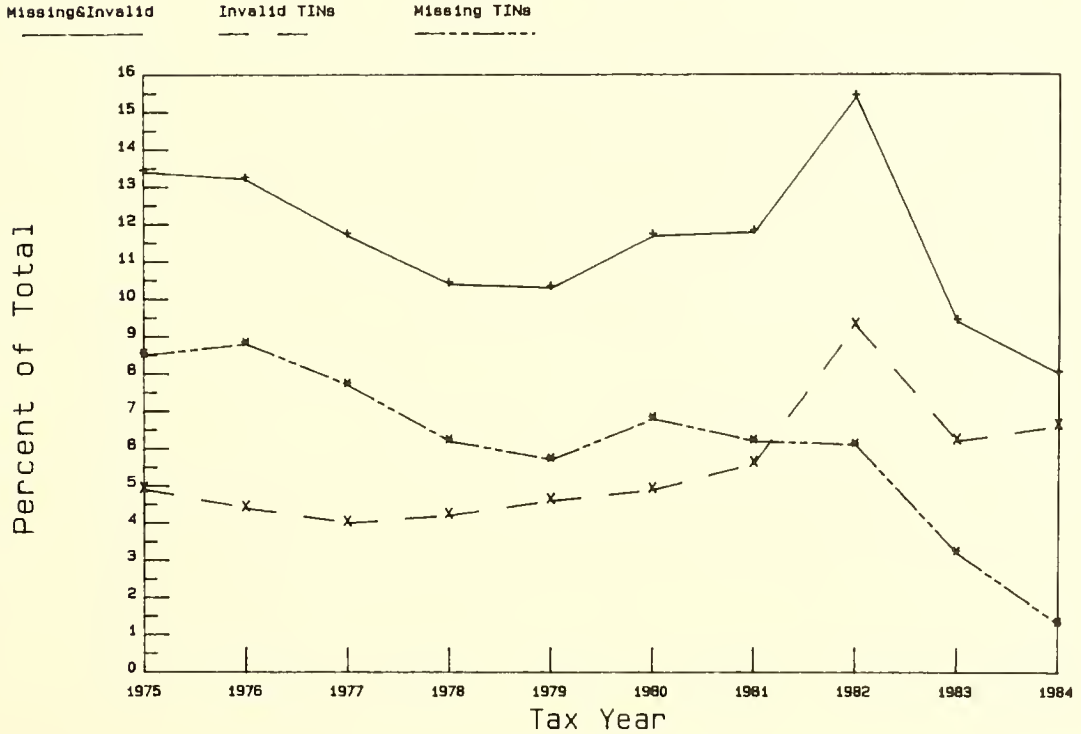

Figure 1 also presents data showing the total percentage of wage documents filed with missing or invalid TINs. Here the anomalous 1981 figures for wage documents with missing or invalid TINs tend to cancel one another out. The percentage of documents with missing or invalid TINs combined shows a sharp drop (of about one-third) between 1982 and 1983. This is immediately followed, however, by an only slightly less sharp increase between 1983 and 1984. All things considered, then, the missing and invalid TIN data generated during SSA processing of wage information documents do not seem to show any marked and lasting impact of TEFRA and IDTCA. At the same time, however, it should be remembered that the percentage of wage documents with missing or invalid TINs was quite small over the entire period shown in Figure 1, never reaching four percent and ending at 3.0 percent.

Nonwage Documents

Figure 2 shows that the percentage of nonwage information documents with missing TINs declined hardly at all between 1981 and 1982. Between 1982 and 1983, however, the percentage dropped sharply, as it did again between 1983 and 1984. The pattern for the percentage of nonwage information documents with invalid TINs was more erratic, increasing sharply between 1981 and 1982, dropping almost as sharply between 1982 and 1983, and then increasing slightly between 1983 and 1984. As mentioned above, the high percentage of invalid TIN nonwage documents recorded for 1982 seems anomalous when compared to the data for the other years shown in Figure 2. Even if this figure is discounted, however, the percentage of nonwage documents with invalid TINs is still higher after 1981 than before, and the overall trend is slightly upward from 1977 on.

The Figure 2 data series showing the total percentage of nonwage documents filed with missing or invalid TINs is also affected, of course, by the anomalously high invalid TIN figure for 1982. However, the 1983 percentage of nonwage information documents with missing or invalid TINs combined is lower than the 1981 percentage, and the percentage for 1984 is smaller still. The nonwage document data taken as a whole, therefore, do seem to indicate that TEFRA and IDTCA have had some effect in reducing the total fraction of nonwage information documents filed with missing or invalid TINs. However, this reduction appears to have been limited to the missing TIN side of the problem, as the percentage of documents filed with invalid TINs has increased by almost as much as the percentage with missing TINs has decreased.

Trends in Tax Exempt Organizations

by
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This article presents trends in reporting compliance of selected types of exempt organizations as measured by the first two exempt organization Taxpayer Compliance Measurement Program (TCMP) surveys. Trends analyzed include the number of active entities, changes to exempt status, and no-change cases for private foundations, public charities, and civic and social organizations. The analysis also includes reporting compliance with unrelated business income tax (UBIT) and excise tax requirements for private foundations. The data indicate that overall rates of change to exempt status after audit have remained stable over time. In addition, tax error figures associated with UBIT provisions for public charities and civic associations have decreased over time. Finally, the number of private foundations engaging in unrelated business income activity has increased slightly, however as a group, their tax errors associated with UBIT provisions exhibited more than a ninefold increase.

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Introduction

Current law recognizes a class of organizations that are exempt from federal income tax, such as public charities, private foundations, and civic associations. These organizations are granted exemption because they engage in some type of socially desirable activity. However, if these organizations generate income not substantially related to their tax exempt activities (commonly referred to as unrelated business income or UBI), a tax is typically imposed on this income. In addition, the Tax Reform Act of 1969 classified certain types of organizations as private foundations and imposed certain taxes and penalties on these private foundations as well as on foundation managers. Private foundation excise taxes and unrelated business income taxes are discussed in later sections of this article.

TCMP Surveys

Since the enactment of the Tax Reform Act of 1969, two Taxpayer Compliance Measurement Program (TCMP) surveys of organizations that are exempt under section 501(c) of the Internal Revenue Code have been completed. The types of organizations covered in **both** of the exempt organization TCMP studies are:

- **Private Foundations and Public Charities**--IRC 501(c)(3)--corporations and any community chest, fund, or foundation, organized and operated exclusively for religious, charitable, scientific, testing for public safety, literary, or educational purposes, or to foster national or international amateur sports competition, or for the prevention of cruelty to children or animals;

- **Civic Associations**--IRC 501(c)(4)--civic leagues or organizations not organized for profit but operated exclusively for the promotion of social welfare;

The types of organizations covered by only the second exempt organization TCMP study include:

- **Labor Unions**--IRC 501(c)(5)--labor, agricultural, or horticultural organizations;

- **Business Leagues**--IRC 501(c)(6)--business leagues, chambers of commerce, real estate boards, boards of trade, or professional football leagues;

- **Recreation Clubs**--IRC 501(c)(7)--clubs organized for pleasure, recreation, or other nonprofit purposes;

- **Fraternal Societies**--IRC 501(c)(8)--fraternal beneficiary societies, orders or associations operating under the lodge system and providing for the payment of life, sick, accident, or other benefits to the members of such society, order, or association and their dependents.

Definition of Survey Cycles

The first TCMP survey of exempt organizations (designated Phase VI, Cycle 1) included a sample of private foundations, public charities, and civic associations filing Form 990 (Return of Organization Exempt from Income Tax) and Form 990-PF (Return of Private Foundation). Cycle 1 covered returns filed for tax years ending in January 1973 through September 1974. The second survey (Phase VI, Cycle 2) of the program included a sample of Forms 990 and 990-PF that were filed for tax years ending in January 1979 through September 1983. Large organizations--those with income or assets of more than $50 million--were excluded from the second survey. The sampled organizations were given a thorough examination and the results were recorded and weighted to reflect the compliance pattern of the population covered by the survey.

Active Entities

As shown in Table 1, the number of active exempt organization entities increased by nearly 20 percent during the period between the two TCMP Phase VI studies. During the same period, the number of public charities increased from 202,000 to over 304,000, about a 51 percent increase. This significantly contributed to a 46.3 percent increase in the total private foundations and public charities category.

Table 1. Trends in the Number of Active Exempt Organization Entities

Type of Organization	TCMP Phase VI Cycle 1	TCMP Phase VI Cycle 2	Increase (percent)
Foundations & Charities	229,502 1/	335,757 1/	46.3
Civic Associations	113,713	129,209	13.6
Labor Unions	78,737	79,775	1.3
Business Leagues	35,310	51,714	46.5
Recreation Clubs	39,187	53,467	36.4
Fraternal Societies	142,698	88,272 2/	(38.1)
Other	38,954	73,276 3/	88.1
Total	678,101	811,470	19.7

1/ All organizations in this category are not included because certain organizations such as churches, integrated auxiliaries, subordinate units and conventions or associations of churches, do not need to apply for recognition of exemption unless they desire a ruling.

2/ The significant drop in the number of fraternal societies resulted from the reclassification of many of these to lodges exempt under IRC section 501(c)(10).

3/ The significant increase in the number of "other" exempt organizations resulted from the reclassification of many fraternal societies to lodges exempt under IRC 501(c)(10) as well as the reclassification of veterans organizations from civic associations to Armed Forces societies exempt under IRC 501(c)(19).

Reporting Compliance

No-Change Rates

Table 2 provides data on the percentage of exempt organizations where the TCMP examination resulted in a "no-change" case during Cycle 2. The no-change percentages range from a low of 11.6 percent for fraternal societies to a high of 33.7 percent for private foundations. A comparison of no-change cases between the two surveys has not been made since differences in the definition of change/no-change cases render the two surveys incomparable in this area. The redefinition of change/no-change cases caused what appears to be a significant drop in the number of no-change cases. The no-change rates for private foundations, public charities, and civic associations organizations in Cycle 1 were 98.0, 97.3, and 96.6 percent, respectively. Additional items were added to the definition of change cases in Cycle 2, such as correction of financial information (note that this may not affect the exempt status of the organization under examination).

Table 2. No-Change Rates by Type of Exempt Organization (TCMP Phase VI, Cycle 2)

Type of Organization	Cycle 2 No-Change Rates (percent)
Private Foundations	33.7
Public Charities	18.9
Civic Associations	18.7
Labor Unions	24.9
Business Leagues	17.3
Recreation Clubs	14.3
Fraternal Societies	11.6

Change in Status

The TCMP examination of an exempt organization includes a review of the activities of the organization. If these activities significantly diverge from the purpose for which it was initially recognized as exempt, the examination may result in a revocation, termination, or modification of the organization's exempt status. Change in status, especially revocation, is an extreme sanction and is invoked only as a last resort. The percent of returns with a change to exempt status (Table 3) remained relatively stable between the two surveys. The rate of change to exempt status for private foundations increased from 1.2 to 2.2 percent between Cycle 1 and Cycle 2. During the same period, the rate of change for public charities decreased from 1.8 percent to 1.3 percent, and for civic associations it decreased from 2.9 to 1.9 percent. In the second survey, recreation clubs had the highest rate of change to exempt status (8 percent), while labor unions and fraternal societies had the lowest (1.2 percent) of those organizations presented in Table 3.

Table 3. Trends in Change to Exempt Status

Type of Organization	Change to Exempt Status (percent)	
	Cycle 1	Cycle 2
Private Foundations	1.2	2.2
Public Charities	1.8	1.3
Civic Associations	2.9	1.9
Labor Unions	NA	1.2
Business Leagues	NA	2.9
Recreation Clubs	NA	8.0
Fraternal Societies	NA	1.2

Private Foundation Excise Taxes

Excise taxes on private foundations consist of two types: (1) a tax on investment income (IRC 4940) and (2) taxes that are designed to restrict the activities of private foundations (IRC 4941/4945). The latter are commonly referred to as "penalty taxes." Every person liable for the tax imposed by IRC 4941 through 4945 and every private foundation which has engaged in an act of self-dealing giving rise to tax must file an annual return on Form 4720 (Return of Certain Excise Taxes on Charities and Other Persons Under Chapters 41 and 42 of the Internal Revenue Code). The type of tax associated with these sections of the IRC is listed below:

- IRC 4940 Tax on Investment Income
- IRC 4941 Taxes on Self-Dealing
- IRC 4942 Taxes on Failure to Distribute Income
- IRC 4943 Taxes on Excess Business Holdings
- IRC 4944 Taxes on Investments Which Jeopardize Charitable Purposes
- IRC 4945 Taxes on Taxable Expenditures

Compliance With Penalty Tax Provisions

Compliance data on the penalty tax provisions are summarized in Table 4. (Data on section 4940 compliance have been omitted from the table due to incomparability of the surveys.) Table 4 shows that a small percentage of organizations violated sections 4941 through 4945 and that there was no significant increase in the percent of returns with violations between Cycle 1 and Cycle 2. Similarly, the total tax error associated with the five types of penalty taxes stayed about the same, $2.4 million in Cycle 1 and $2.5 million in Cycle 2.

Table 4. Trends in Compliance with Excise Tax Provisions by Private Foundations

IRC Section	Returns with Violations (percent)		Tax Errors (thousands of $)	
	Cycle 1	Cycle 2	Cycle 1	Cycle 2
4941	2.2	1.1	$1,338	$159
4942	3.2	3.8	153	623
4943	0.1	0.1	46	2
4944	0.2	0.1	263	402
4945	4.5	6.1	553	1,272
Total	10.1	11.0	2,253	2,458

Unrelated Business Income Tax

IRC section 511 imposes a tax on the unrelated business income of exempt organizations. Unrelated business income is derived by an exempt organization from customary trade or business that is not substantially related to exempt purposes. The tax is reported on Form 990-T (Exempt Organization Business Income Tax Return). Table 5 presents trends in exempt organizations engaged in unrelated business income. Both TCMP cycles include data on private foundations, public charities, and civic associations. Data on other types of exempt organizations are available exclusively for Cycle 2. All three categories of organizations--private foundations, public charities, and civic associations--exhibited increasing numbers of entities engaging in UBIT activity from Cycle 1 to Cycle 2.

Table 5. Trends in UBI Activity

Type of Organization	Organizations with UBI	
	Cycle 1	Cycle 2
	(percent)	
Private Foundations	1.2	1.5
Public Charities	2.8	5.8
Civic Associations	1.7	7.7
Labor Unions	NA	10.7
Business Leagues	NA	27.9
Recreation Clubs	NA	50.9
Fraternal Societies	NA	15.5

Table 6 provides data on the amount of tax error on returns of exempt organizations with unrelated business income. Private foundations exhibited a ninefold increase in UBI tax errors from Cycle 1 to Cycle 2. This increase in the amount of tax error can be partially explained by the increase in the number of private foundations involved in unrelated business activities. During this same period, public charities and civic associations exhibited declines in UBI tax error amounts--76 percent and 41 percent, respectively, even though there was a significant increase in the number of these organizations engaging in unrelated business activity.

Table 6. Trends in Unrelated Business Income Tax Error

Type of Organization	UBIT Errors	
	Cycle 1	Cycle 2
	(thousands of $)	
Private Foundations	$400	$3,674
Public Charities	16,700	4,014
Civic Associations	1,400	882
Labor Unions	NA	1,938
Business Leagues	NA	4,347
Recreation Clubs	NA	4,224
Fraternal Societies	NA	386

Employee Leasing

by
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The leasing of employees by small businesses is becoming more commonplace. Employers are choosing to capitalize on the advantages of employee leasing (such as better and less expensive benefits for workers and elimination of much of the paperwork involved in being an employer) despite the disadvantages of decreased control over their workforce (such as their right to hire and fire). Governments at all levels are realizing the need to regulate the industry, and recently the Tax Reform Act of 1986 (TRA 86) put some restrictions on the benefits of leasing employees. In recent years the Service and the industry have become more aware of the negative aspects of employee leasing as a result of the bankruptcies of several major leasing companies.

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What is Employee Leasing?

In any employment situation there are generally two parties involved--the employer and the employee. Under employee leasing the identity of the employee is unchanged; however, instead of a single recognizable employer, we now have two entities involved: 1) the leasing company and 2) the recipient of the employee's services. The leasing company hires and pays the employee and orders the employee to work for their client who becomes the recipient of the employee's services. Under most circumstances the leasing company is considered to be the employer if it establishes an employer-employee relationship under common law rules. If that relationship is not established, then the recipient of the services could be considered the employer. In either case, to the casual observer, the recipient of the services would appear to be the employer. It's important to note here the distinction between employee leasing companies (which lease out employees on a permanent, full-time basis) and temporary services companies (which, by definition, lease out employees on a temporary basis).

Trend

The number of firms entering the employee leasing field and the number of employees being leased on a full-time basis by small businesses has increased substantially in recent years. At the end of 1984 there were approximately 200 firms leasing out about 60,000 employees. By late 1987, according to estimates of the National Staff Leasing Association, there were approximately 325 firms leasing out about 325,000 employees. Some forecasters predict there will be millions of leased employees in the U.S. by the middle of the next decade, despite the passage of TRA 86.

Background

Employee leasing has been around for years in the temporary employment industry and in some specialized fields like trucking and security. In California in the early 1970's, some companies began leasing out permanent, full-time staff to businesses in service industries, but they did not achieve much growth. Not until the Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA) did the concept of employee leasing really take hold.

The spark provided by TEFRA was the safe harbor provision of Internal Revenue Code (IRC) Section 414(n)(5). While the major thrust of TEFRA changes in the pension area was to include more workers as employees for purposes of determining pension coverage requirements, IRC 414(n)(5) provided a safe harbor whereby the tightened pension provisions need not apply to leased workers if the leasing company provided its employees with a money purchase pension plan with a nonintegrated employer contribution rate of 7.5 percent and provided for immediate participation and for full and immediate vesting. In no time at all, leasing companies began to exploit the safe harbor provisions. The TEFRA changes made liberalized pension planning a major appeal of employee leasing and a catalyst for sudden growth in the industry.

Recently, however, the growth of employee leasing was temporarily set back by the passage of the Tax Reform Act of 1986. Under one of the Act's provisions, the safe harbor cannot be used if 20 percent or more of the recipient's employees are leased. Since most clients of employee leasing companies are small businesses that lease most, if not all, of their employees, this provision wiped out any hope of using employee leasing as a way around the pension coverage requirements of IRC 414. After the passage of TRA 86 the industry realized that future growth would occur only by marketing other benefits of employee leasing. After an initial loss of a substantial number of clients, the industry now appears to be back on a positive growth curve.

The Appeal of Employee Leasing

Employee leasing appeals to small businesses and employees for a number of reasons:

- The employer no longer has responsibility for computing and distributing the payroll, withholding employment taxes and preparing the many employment-related Federal, state and local government reports.

- The employer no longer has to advertise for new employees or screen applicants; he/she is relieved of the headaches that go with hiring, disciplining, and firing employees.

- The employees have access to better benefits packages that can be provided more economically by large employers. Most leasing companies provide benefits to employees such as health, dental, long-term disability and life insurance that small businesses cannot provide normally.

In a study prepared for the Small Business Administration in December 1986, clients were asked to rate the services provided by leasing companies. Better and cheaper employee benefits and less paperwork were rated as very important or important by more than 90 percent of the respondents. Twenty of the 21 respondents rated the health insurance provided by the leasing company as much better than what they could provide.

State Recognition and Regulation

In recent years the states have recognized the potential for abuse of unemployment insurance and worker's compensation laws by employee leasing companies. In both systems the premiums paid by a company are usually based on the history of claims made by the employees of the company. When employees are transferred from a company with an extensive history of claims to a leasing company that has no history, but the employees don't actually change jobs, the state feels shortchanged, particularly if the leasing arrangement is a sham. The premiums paid by the leasing company into the unemployment insurance and worker's compensation funds will be less, but the state's exposure to paying out benefits has not changed.

To minimize the potential for abuse, some states have taken the initiative in regulating the employee leasing industry. In California, where a high percentage of employee leasing takes place, Assembly Bill No. 2733, enacted in September 1986, set the following provisions for determining whether the leasing organization is the employer for unemployment insurance purposes. "Whether an . . . entity is the employer of specific employees shall be determined under common law rules applicable in determining the employer-employee relationship . . . ." However, in the special case where an employee leasing company is involved, the law provides that the leasing company may be a "leasing employer" if it "performs all of the following functions:

(1) Negotiates with clients or customers for such matters as time, place, type of work, working conditions, quality, and price of the services.
(2) Determines assignments or reassignments of workers, even though workers retain the right to refuse specific assignments.
(3) Retains the authority to assign or reassign a worker to other clients or customers when a worker is determined unacceptable by a specific client or customer.
(4) Assigns or reassigns the worker to perform services for a client or customer.
(5) Sets the rate of pay of the worker, whether or not through negotiation.
(6) Pays the worker from its own account or accounts.
(7) Retains the right to hire and terminate workers."

How Does Leasing Affect the Service?

In dealing with employee leasing, the most important issues for the Service revolve around adherence to the pension laws and the receipt of employment taxes. While in the past some small businesses

decided to lease employees merely to circumvent the pension laws, the 20 percent rule adopted in TRA 86 should end this practice. However, employment taxes remain as an important issue with several positive and negative aspects.

As with any business, employee leasing companies are accountable for employment taxes (i.e., income, Social Security and unemployment taxes). These monies are held in trust by the companies and must be paid over to the government on a schedule dictated by the size of their liability. In the case of income and Social Security taxes, deposits can be required up to eight times per month; for unemployment taxes, deposits are generally required quarterly.

Typically, an employee leasing company will lease out staff to dozens of small businesses. In effect this results in the consolidation of many small accounts into one larger account. This consolidation is significant to IRS for several reasons:

- Employee leasing companies are in the business of depositing employment taxes and preparing and submitting appropriate returns. They should be able to do the job faster and with fewer errors than the smaller businesses they represent.

- For those businesses that lease all of their workers, no Forms 941 (Employer's Quarterly Federal Tax Return) would need to be filed. Their workers would be covered on the Forms 941 filed by the employee leasing company. This could represent a significant decrease in the number of Forms 941 filed in the future if projections for the growth of employee leasing are accurate.

- Since employee leasing companies are responsible for the combined payrolls of all their clients, they are required to deposit employment taxes more frequently, resulting in accelerated cash flow to the Treasury.

There is a negative side to employee leasing, however. Because most leasing companies are storefront operations, they have few assets and tend to rely heavily on the timely receipt of fees from their clients in order to meet their deposit and payroll requirements. This is true of most companies in service industries, but the sheer size of the payrolls of major leasing companies, relative to their physical assets, makes them unique. An unscrupulous operator of an employee leasing company could rake off millions of dollars in trust funds and pension payments before Federal and state tax collectors could take action. Even the most ethical operator could get in trouble if a large client were to miss several fee payments or were to go bankrupt. In either case the Service must take quick action to minimize the pyramiding of liabilities, since the companies have few assets upon which to take enforced collection action.

Conclusions

Being an employer is getting more difficult every day, particularly for small businesses that do not have the resources to keep up with the constant changes being imposed by all levels of government. Major tax changes have become a yearly event. Insurance

costs keep going up. The paperwork burden keeps mounting for the many Federal, state and local programs that impact all employers. Employees are expecting more and more from their employers, and small businesses can't compete with the benefits that large employers can provide. With this backdrop it seems certain that employee leasing will remain and grow in popularity as an employment alternative.

The Service faces some of its most serious challenges as it tries to deal with the ever expanding service sector of the economy. Many states are enacting laws and issuing regulations to deal with the unique challenges of industries like employee leasing, and the Service can learn from their experiences. Employee leasing companies are particularly sensitive to the Service's concerns in the pension and employment tax areas. The December 1986 report prepared for the Small Business Administration made a recommendation that special trust accounts be created to help ensure that funds needed to pay taxes, fees and pension accounts are not used as operating funds. Many individuals in the employee leasing industry endorse this recommendation, particularly if it were made a requirement for other similar service sector industries.

References

1. Carlsen, Clifford. "Staff Leasing Remains Strong Despite Tax Law," **San Francisco Business Times**, July 1987.

2. Degnan, Theodore E. "Escaping the 'Employee Burden'," **Taxes --The Tax Magazine**, March 1986, pp. 172-178.

3. **Employment Taxes**, Publication 539, Internal Revenue Service.

4. Foss, Helga B. and Shaheen Borna. "Employee Leasing after the TRA," **Journal of Accountancy**, September 1987, pp. 151-156.

5. Hartwell, Robert van Laer. "Employee Leasing--A Bright Future Dimmed by Tax Reform?" **Topics in Total Compensation**, Summer 1987, pp. 329-336.

6. Spolar, Chris. "Leasing Employes No Longer an Oddity at Service Firms," **Washington Post**, May 31, 1987.

7. **Tax Guide for Small Business**, Publication 334, Internal Revenue Service.

8. "Workers for Rent," **Forbes**, February 23, 1987.

9. Young, Leslie A. and Elizabeth S. Elliott. "Employee Leasing in Small Versus Large Businesses," report prepared for U.S. Small Business Administration by ATAC (Mountain View, CA) December 1986.

Management in the 1990's
A Research Consortium

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This article highlights one of the less conventional avenues the Service has taken to improve its ability to identify trends and evaluate the impact of developments in the area of information technology (IT). IRS is one of ten sponsors of a business/academic consortium formed by the Massachusetts Institute of Technology (MIT). The program is called Management in the 1990's. Its objective is to look at how the widespread introduction of information technology impacts an organization--its work processes, human resources, communications, and even organizational design. As a sponsor, the Service participates as an active partner with MIT in specific research projects and also benefits from an active exchange of ideas and experiences among the sponsor companies. The article discusses the benefits of a consortium and covers some of the research projects of particular interest to IRS that have been conducted under the auspices of the Management in the 1990's Program.

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Technology and Tax Administration

The 1957 edition of **Webster's International Unabridged Dictionary** defines technology as "industrial science" or "the science or systematic knowledge of the industrial arts, especially of the more important manufactures such as spinning, weaving, metallurgy, etc." Given that definition, were tax administrators to discuss trends thirty years ago, it is doubtful that trends in technology would be considered relevant.

But by 1988 both the definition and relevance of technology have changed for us. No longer is it viewed as simply an "industrial science." Now it is a subject that is intertwined with the future state of most businesses throughout the world. For those of us in tax administration, it is reflected in the form of information technology because our business is processing information. The pervasive impact of technological advances in processing information is striking.

Every aspect of the IRS Mission has been and will continue to be impacted by the technology revolution. The IRS of the late 1980's is more dependent on, but is also benefited by, information technology to accomplish its mission. There is no question that this trend will continue into the 1990's as the volume of work continues to grow and advances in technology put us in a better position to deal with the workload. From the way tax returns are processed to the way employees communicate and use office equipment, information technology is changing the way we conduct business. The changes affect us both as an employer and as our nation's tax administrator.

Managing the Impact of Technology

Perhaps as important as the specific changes or improvements enabled by technology is the way we manage the curve of technological change as a whole. As tax administrators, we have a responsibility to do so for the benefit of the taxpayers. As a government organization which employs over 100,000 people, we also have a responsibility to those employees and to the public to be as effective as possible. The most innovative of technological developments will do us no good if we cannot successfully integrate it with our human resources and manage the result over the long term. For this reason, the Internal Revenue Service has actively sought to work with others inside and outside of government to analyze trends and look for insight and answers about managing our organization in the technological age. One such effort of significance is our participation in a research consortium run by the Massachusetts Institute of Technology. The program is called "Management in the 1990's."

The program was established as a result of extensive analyses of technology trends which concluded that more concentrated research about the impact of technology was needed. Its aim is to identify and develop a better understanding of the managerial issues of the 1990's and how to deal most effectively with them, particularly as these issues revolve around anticipated advances in information technology.

Sponsors, in addition to the IRS, are American Express, Arthur Young & Co., British Petroleum, BellSouth Corp., Digital Equipment Corp., Eastman Kodak, General Motors, International Computers Ltd., and MCI Communications Corp. CIGNA Corporation and the Department of the Army joined the consortium as affiliate members in 1986. This is obviously a very diverse group as far as business interests are concerned, but we share a common goal of helping our organizations cope with the pervasive impact of information technology.

IRS has very active research and planning functions and has been a frequent partner with academia and the consultant community in trying to diagnose problems and determine the most effective direction to take in finding solutions. What sets Management in the 1990's apart is that it functions as a consortium. The consortium approach brings to bear on the problem not only academic resources, but the combined experience and insight of the industry sponsors of the program. For IRS it offered another avenue of information and cooperation, this time with the private sector. We are in the fourth year of a planned five year program. The research projects that have evolved cover a wide range of topics within the umbrella of the program's overall aim--topics that reflect some of the specialized interests and concerns expressed by members of the consortium.

Looking at the Impact of Technology in IRS

Since (and before) the onset of the Management in the 1990's program, IRS has pursued many internal initiatives which were designed to use information technology to improve tax administration; some

of these in turn have provided some fruitful fields for research by MIT, specifically the Automated Collection System (ACS), Electronic Filing, and the Automated Examination System (AES).

The IRS Automated Collection System is the focus of a study to understand the impact of the technology used in the Collection function on both management and employees. How has that technology affected both office and individual performance? How has it impacted management techniques? Have we effectively adapted our management controls and practices from a paper-intensive to a computer-driven operation so that we can maximize the benefits of the new technology? These questions are but a few that the research is exploring. We and our fellow members of the consortium expect this study to yield some very useful information which may shed some light on the "best approach" to managing information and on the new capabilities that the technology allows.

The subject of gaining competitive advantage through information technology is being addressed by a "Study of the Marketplace in Response to the IRS Electronic Filing Project." This study intends to identify the factors in the marketplace which would cause the key players in any electronic filing effort to adopt it as the standard way of doing business with IRS. Identifying these factors is important to IRS because electronic filing cannot become an integral part of the tax filing business without significant cooperation and acceptance from all affected parties--including not only return preparers but tele-communications firms, software manufacturers and financial institutions.

The Automated Examination System serves as the subject for an IRS in-house project to develop a data base which we can use to track, at various intervals, the impact of a large scale introduction of technology on the workforce. MIT researchers, through the Management in the 1990's program, are actively helping us to identify trends and issues which should be included, and we look forward to sharing the data base with MIT and our fellow sponsors for use in future research.

As mentioned earlier, the portfolio of projects funded by the Management in the 1990's program is intended to address the needs and interests of the consortium as a whole. Certain projects, however, are more directly related to the interests of some sponsors than others, as is illustrated by the projects just discussed that directly involve IRS operations. The projects funded for the 1988 fiscal year are as follows:

- **Expectations and the Impact of Microcomputers**--This project studies the effects of microcomputers in large organizations, focusing on how expectations held by implementers, users, and managers shape workplace changes, communication patterns, and productivity.

- **Managing Cooperating Experts: Effective IT Design**--This project examines impacts of information technology on key processes used to build information systems and on structural relations among experts involved in design and problem-solving activities.

- **Managing Human Resources in an Environment of Changing Technology**--This study looks at the effects of introducing new information technologies and changing human resource management practices under different environmental conditions in relation to an organization's goals, employees, and society. (The research involving ACS comes under the auspices of this project).

- **Framework for Analyzing the Performance of Complex, Information-Intensive, Expert, Dynamic Functions in Geographically-Dispersed Firms**--This project examines strategies, structures, and processes for enhancing linkages among geographically-dispersed activities within multinational firms.

- **The Productivity of Information Technology Capital**--This project uses data on a large sample of firms over several years to estimate econometrically the productivity of capital allocated to IT.

- **Intelligent Information Sharing Systems**--This project involves developing and studying the use of an intelligent system called the Information Lens, for supporting organizational information sharing and coordination.

- **Organizational Structures and Information Technology**--This study looks at how the dramatic improvements in the power and cost of information technology in recent years have changed the constraints on how communication and coordination in organizations can occur.

- **The Research Program on Communications Policy**--This program coordinates research and teaching in telecommunications at MIT. The emphasis is on the interaction of evolving information and telecommunications technologies with the regulatory environment.

- **The Future of the Telecommunications System**--This project focuses on the network aspects of information technology.

- **Working with Information Technology at Both Office and Home: Organizational and Individual Benefits and Concerns**--This study explores the issues involved in an office-home pattern of work, where professional, managerial, and technical employees work at home for some part of the regular work week, but remain accessible via IT.

- **Executive Managements' Implicit and Explicit Assumptions About Information Technology and Its Role in Their Organizations**--During the past year, 80 chief executive officers have been interviewed in depth to determine what their implicit assumptions are about information technology as it may impact their own organizations and their own lives. The next step is to discover the antecedents and consequences of each CEO's assumptions. In particular, are the executive's assumptions congruent with his/her goals and strategies? Are these assumptions widely shared? Does such consensus (or lack thereof) impact the implementation of IT? (IRS was one of the organizations whose "CEO" was interviewed for this project.)

- **Competitive Advantage Through Information Technology**--This study consists of two closely related sub-projects. The first seeks to answer the question: Is there a superior level of strategic advantage (reduced cost of operations, increased market share, enhanced profits, etc.) available through IT that cannot be realized through alternate means? This question is being addressed in the context of insurance agents. The second sub-project seeks to understand the shifts in strategic capabilities necessary to compete in markets altered by a technological discontinuity. The setting for the second sub-project is the market for individual income tax preparation services, as now impacted by the IRS electronic filing option.

- **Global Competitor Scanning in the Multinational Firm**--This project is an analysis of how multinational corporations can use information technologies and organizational design changes to enhance competitive advantages.

- **The Effects of Organizational Structure on Strategic Alliance Success**--A major factor in the growth and structure of the IT industry is expected to be the success of the strategic alliances being formed today between manufacturers, suppliers and users of software, computers and telecommunications equipment.

Benefits of the Consortium

In this fourth year of the program, IRS is encouraged not only by the potential of the research efforts in which we are actively involved or have a strong interest, but also by the widening dialogue among the sponsor organizations about areas of common interest, discussion of trends, etc. The benefits of this dialogue were evident in April 1987, when IRS hosted a workshop on "Developing an Artificial Intelligence Capability" at which representatives from the Management in the 1990's sponsoring organizations and MIT faculty shared their experiences and expectations of expert systems. This type of interaction, regularly scheduled seminars given by MIT faculty, and cooperative discussions and visits between sponsors sharing the same kind of work challenges and concerns are welcome benefits of being part of this consortium.

Conclusion

At the outset of the Management in the 1990's program, the sponsors shared a common assumption about the nature and magnitude of the impact of information technology: that IT is expected to become pervasive in the workplace and in the home, and that this will have a substantial impact on individuals, organizations, industries, and even nations. The sponsors wanted the results of the program to help managers understand the relationships between information technology and the people, organizations, industries and nations of the world. Emphasis during the remainder of this year and next (the last year of the program) will be on achieving that goal--by completing the individual research projects, coalescing the research results into a book, and effectively communicating the insights and information gained from participating in this consortium back into the sponsoring organizations; back to those managers who can best put what has been learned to good use.

The IRS Mission Statement concludes with the phrase: "Continually search for and implement new, more efficient and effective ways of accomplishing our Mission." For IRS, participation in the Management in the 1990's program is part of that continuing search, an avenue of exploration that may indeed lead us to more efficient and effective ways of accomplishing our Mission.

Location and Characteristics of Americans Resident Abroad

by
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Little tax administration data on Americans resident abroad is available. Data required to address tax administration needs and potential compliance problems include where these taxpayers are located and what their characteristics are. This paper summarizes information currently available on the characteristics of Americans resident abroad, and presents in table form the the most detailed information now available, for use in the Service for further research.

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Background

The Office of the Assistant Commissioner (International) was created in May of 1986 with a mandate, among other things, to encourage tax law compliance by Americans resident abroad. In order to effectively carry out this mandate, it is imperative that International know as much as possible about its principal customer--Americans resident abroad.

Unlike many other nations, the United States taxes its citizens on their worldwide income. In effect, this means that U.S. citizens abroad who meet the gross income threshold must file tax returns, even if they are also subject to tax by their country of residence. United States tax law or tax treaties provide various mechanisms to avoid overtaxation, such as a foreign earned income exclusion, an exclusion or a deduction from gross income for housing costs, and a credit or deduction for foreign taxes paid.

Location of Americans Resident Abroad

For the purpose of this study, Americans resident abroad are classified into three categories--persons associated with the Department of Defense (DoD), non-DoD U.S. government employees, and others not affiliated with the U.S. government. Department of Defense associated Americans resident abroad include active duty military personnel, DoD civilian personnel, and the dependents of active duty and civilian personnel.

Data on Americans resident abroad by country is presented in the appendix for countries with over 100 resident Americans. West Germany, Canada and Mexico are the three countries with the most resident Americans (619,000, 366,000 and 274,000, respectively). However, excluding DoD associated people and U.S. government employees, the three countries with the most resident Americans are Canada, Mexico and the United Kingdom (363,000, 273,000 and 201,000, respectively), or 41 percent of the total estimated number of Americans resident abroad who are not affiliated with the U.S. government. In total,

just over three million Americans are estimated to reside abroad--463,000 active duty military personnel, 54,000 DoD civilian personnel, 442,000 dependents of DoD personnel, 44,000 U.S. government employees, and 2,020,000 Americans not affiliated with the U.S. government.

Social Security Recipients

Approximately 329,000 people residing abroad receive $1.2 billion in benefits from the Social Security Administration (SSA). These include retirement benefits paid to retired workers (47 percent), their spouses (13 percent) and their children (5 percent); survivor benefits paid to widows/widowers (21 percent) and children (9 percent); and disability benefits paid to disabled workers (3 percent), their spouses (1 percent) and their children (2 percent). Of the 329,000 SSA recipients, however, only 114,000 are U.S. citizens. The remainder are foreign nationals resident outside the U.S. whose status entitles them to Social Security benefits.

The average yearly amount of Social Security benefits received by people resident abroad was $3,733 in 1985. By comparison, SSA recipients in the U.S. received an average of approximately $5,000. The three countries with the highest number of SSA recipients are Mexico (63,000), Canada (57,000) and Italy (40,000). The following table provides information on the number of SSA recipients abroad by country or region, and the average yearly amount received per recipient by country or region. More detailed information is also available by 65 major countries from SSA and is also on file in the Office of the Assistant Commissioner (International).

Ratio of Returns Filed to Population

The ratio of returns filed to the estimated number of Americans resident abroad varies substantially by region of the world. For this paper, we will be examining the ratio of total international individual income tax returns received (excluding forms received from Puerto Rico) to the number of "other" Americans resident abroad (i.e., non-DoD and non-U.S. government). Department of Defense associated people and U.S. government employees are excluded from this analysis since they generally file their tax returns with an Army Post Office (APO) or Fleet Post Office (FPO) box address on the tax return, and thus are reflected in domestic IRS District filing statistics--**not** International statistics.

A Form 1040 series return is considered an "international" return if one of the following conditions holds:

- The taxpayer's address is outside the 50 states and District of Columbia (except APO and FPO addresses);
- Form 2555 (Foreign Earned Income) is attached;
- Form 4563 (Exclusion of Income From Sources in United States Possessions) is attached;

Tax Return and Social Security Benefit Statistics for Americans Resident Abroad, 1986

Country/Region1/	Individual Returns Filed2/	Percent of U.S. Citizens Filing Returns3/	SSA Recip-ients4/	Avg SSA Yearly Benefit (dollars)
United Kingdom	21,118	10.52	19,767	4,592
Scandinavia	4,146	15.02	8,955	4,615
Central Europe	9,365	18.03	5,620	4,599
SW Europe, Israel	6,005	3.84	20,846	4,165
Switzerland	4,275	20.47	2,752	4,653
West Germany	35,786	36.54	16,968	4,323
Netherlands	2,989	18.05	1,674	4,495
Austria	1,519	19.56	1,917	4,776
Southeast Europe	14,291	10.00	58,045	3,794
Egypt, Persian Gulf	19,992	93.27	0	0
South Africa	3,221	14.99	0	0
Central Africa	1,468	13.09	346	4,855
Canada	40,057	11.03	56,728	4,023
Mexico	8,889	3.25	63,613	2,647
N. Caribbean Islands	4,644	5.57	6,845	3,799
Central America	2,107	7.26	2,285	4,018
Panama	1,680	15.73	520	4,038
S. Caribbean, Venez.	3,461	11.39	3,158	4,279
Brazil	3,041	7.98	1,417	4,192
South America	3,357	11.56	2,487	4,053
Japan	9,994	27.15	3,430	4,139
Korea	2,692	26.49	0	0
Philippines	24,909	40.18	29,528	2,976
Republic of China	2,738	30.42	161	4,248
Australia	5,438	7.69	2,388	4,226
New Zealand	1,106	11.28	370	4,573
Hong Kong	3,753	25.74	1,830	3,725
Southeast Asia	5,535	28.98	0	0
South Central Asia	11,534	74.87	740	4,038
Other Countries	62,142	45.21	16,838	4,256
Subtotal	321,252		329,228	3,733
+ Domestic Int'l Returns	88,842			
Total Ind'l Returns5/	410,094			
- Form 1040NR	146,162			
Total Ind'l less 1040NR	263,932	13.06		

- Form 5074 (Allocation of Individual Income Tax to Guam or Northern Mariana Islands) is attached;
- Form 1040NR (U.S. Nonresident Alien Income Tax Return) is attached (Form 1040NR can be an attachment to a Form 1040 or a return by itself);
- Form 8288/8288A (U.S. Withholding Tax Return for Dispositions by Foreign Persons of U.S. Real Property Interests) is attached;
- The taxpayer is a Fulbright Grantee;
- The taxpayer is a resident of Puerto Rico who excludes income derived from sources within Puerto Rico under Internal Revenue Code Section 933; or
- A taxpayer who claims Dual Citizenship Status (i.e., a citizen of the United States and a foreign country) on their tax return.

In addition, the following returns are always classified as "international":

- Form 1040NR (U.S. Nonresident Alien Income Tax Return);
- Form 1040PR (Planilla Para La Declaracion De La Contribucion Federal Sobre El Trabajo Por Cuenta Propia--Puerto Rico (Self-Employment Tax Return)); and
- Form 1040SS/1040SS(NMI) (U.S. Self-Employment Tax Return--Virgin Islands, Guam, and American Samoa/Northern Mariana Islands).

Individuals filing Form 1040NR should be excluded from calculations involving the number of returns filed by Americans resident abroad, since these individuals are by definition nonresident aliens. However, the IRS currently does not track the number of Forms 1040NR filed by country, and thus it is not possible to exclude the Forms 1040NR with accuracy from each country. Thus, for an individual country/region, the filing ratio of individual income tax returns to the related resident American population is in fact overstated. However, the **total** filing ratio is accurate in that it does exclude Forms 1040NR from the computation.

Based on the most current information available, the ratio of returns filed to nongovernment-associated Americans resident abroad is 13 returns for every 100 estimated persons. For comparison, the ratio of individual returns filed to the United States population is 41 returns for every 100 people. Although at this time we can only speculate on the reasons for the much lower ratio of returns filed to the resident population compared to the U.S. experience, numerous factors may be contributing.

First, some Americans resident abroad may be using U.S. addresses to file their returns in order to avoid relying on the local mail system. Once an "international" return is processed at the IRS' Philadelphia Service Center, for examination and collection purposes it is

assigned a district and/or post-of-duty that is located closest to the address appearing on the return. Most "international" returns would be assigned a post-of-duty located outside of the United States, since most returns that are "international" are so because of their foreign address. However, if the return has a domestic address but is "international" due to some other factor (such as having a Form 2555 attached), then it would be assigned to a domestic district. Approximately 89,000 "international" returns are being assigned to a domestic district, and 8.5 percent of all "international" returns (10,900) filed with a Form 2555 attached are being assigned to a domestic district. Although many of these returns may be from Americans who have returned to the U.S. after living abroad, some of these returns may also be from Americans who continue to live abroad and choose to file with a domestic address on their return.

Second, the number of people resident overseas as reported by the State Department may be inflated for IRS purposes. In order for a U.S. citizen to be able to qualify for the foreign earned income exclusion or the foreign housing exclusion or deduction, they must have their tax home in a foreign country, and they must be physically present in a foreign country (or countries) for at least 330 days during any period of 12 consecutive months, or they must be a bona fide resident of a foreign country (or countries) for an uninterrupted period that includes an entire tax year. Thus, those who are resident overseas for less than 330 days may be counted in the State Department calculations, and yet file their returns domestically, since they cannot claim the foreign earned income exclusion or the foreign housing exclusion or deduction.

Third, compared to the U.S., overseas there may be a higher percentage of people who are not required to file, such as children and retirees making less than the filing threshold amount. Finally, Americans resident abroad may be less compliant than domestic Americans. This may be due to a common misperception among Americans resident abroad, that one need not file a tax return if one's income falls below the foreign earned income credit. However, this is a false assumption, since in order to be able to claim the credit, a return must be filed. In addition, unearned income is taxed as usual.

The preceding table presents the percentage of U.S. citizens resident abroad that filed tax returns in 1986, by country or region. The lowest filing ratio (3 percent) occurred among Americans living in Mexico. Seven of the ten country/regions with the highest filing ratios are in Asia, and none of the Central or South American country/regions are in the top half--except Panama. In fact, four of the six country/regions with the lowest ratios are in Central America, South America, and the Caribbean.

Americans resident in Egypt and the Persian Gulf states (Bahrain Islands, Kuwait, Oman, Qatar, and the United Arab Emirates) have the highest ratio of individual returns filed to estimated persons resident in that region (93 percent). Three factors which may contribute to this high filing ratio are a high proportion of single workers (i.e., workers without families) working in this region, a predominance of people working for U.S. companies (and thus subject to withholding), and a large number of Form 1040NR filers present in this region.

Form 2555--Foreign Earned Income

Form 2555 (Foreign Earned Income) is used by people not employed by the U.S. government to claim the foreign earned income exclusion and the housing exclusion and/or deduction. Forty-eight percent (127,000) of international individual income tax returns filed (excluding Form 1040NR return filers, who cannot claim a foreign earned income exclusion) have Form 2555 attached. Although it is not yet possible to compute by country/region the percentage of Forms 2555 attached to returns filed by U.S. citizens resident abroad (since our existing data sources cannot be used to exclude Forms 1040NR filed by nonresident aliens from each country/region), Americans resident in the Persian Gulf States, Africa, Korea and Brazil appear to have the highest percentage of Forms 2555 attached, while Americans resident in the Philippines appear to have the lowest percentage of Forms 2555 attached. It appears that five of the ten country/regions with the highest percentage of American residents filing Form 2555 are in Asia.

Areas for Additional Analysis

It appears that Americans resident in Mexico present the most pressing research problem for the IRS. Mexico has the second highest number of resident nongovernment-associated U.S. citizens (273,000) and the lowest ratio of tax returns filed to population among all country/regions (3 percent). Some of these residents may be using a U.S. post office box address, and thus the returns would be included in domestic district figures and not international figures. However, further research is required to ascertain whether this is in fact the case.

A second potential focus area for the IRS appears to be among Americans resident in Israel, Liberia, Portugal and Spain. When combined, these countries have the fourth largest number of resident nongovernment-associated U.S. citizens (156,000), and the second lowest filing ratio of all country/regions (4 percent).

Three other country/regions which need special attention by the IRS are the United Kingdom, Southeast Europe (Italy, Cyprus, Greece, and Turkey) and Canada. These three country/regions are in the top quartile of resident nongovernment-associated U.S. citizens, and in the bottom third of the ratios of tax returns filed to population (10 to 11 percent).

Conclusion

From the data that is currently available, it appears that Americans resident abroad file proportionately fewer individual income tax returns than domestic Americans. There are numerous reasons why this may be the case, including misperceptions among Americans resident abroad about the filing requirements. However, currently available data sources are insufficient to reach any definitive conclusions regarding filing compliance. Nevertheless, the IRS is investigating ways to develop additional information on filing patterns.

Notes and References

1. Regions are defined as follows: Scandinavia--Denmark, Norway, Sweden; Central Europe--France, Belgium, Liechtenstein, Luxembourg, Monaco; Southwest Europe--Gibraltar, Liberia, Portugal, Spain; Southeast Europe--Cyprus, Greece, Italy, Turkey, Vatican City; Persian Gulf--Bahrain Islands, Kuwait, Oman, Qatar, United Arab Emirates; Central Africa--Diego Garcia, Kenya, Nigeria, Zaire, Zimbabwe; Central America--Belize, British Honduras, Costa Rica, Honduras; South America--Brazil, Argentina, Chile, Paraguay, Peru, Uruguay; Southeast Asia--Indonesia, Malaysia, Singapore; and South Central Asia--Bangladesh, India, Thailand.

2. U.S. Treasury Department, Internal Revenue Service. **District Office Individual Inventory and Delivery Report 1040-1--File Year 1986 (Cycle 8718)** (unpublished, 1987). Includes Forms 1040, 1040A, 1040EZ, 1040NR, 1040PR/SS, and 1040C. Excludes all forms filed from Puerto Rico. All figures have been forced to the data included in the "Report of Returns Posted to the Master File," produced by the Internal Revenue Service, Assistant Commissioner (Taxpayer Service and Returns Processing).

3. "Percent of U.S. Citizens Filing Returns" is derived by dividing the number of individual returns filed (excluding all forms filed from Puerto Rico) by the number of nongovernment-associated Americans resident abroad and multiplying this ratio by 100. Individuals filing Form 1040NR should be excluded from the numerator of the ratio of returns filed to Americans resident abroad, since these individuals are by definition nonresident aliens. However, the IRS currently does not track the number of Forms 1040NR filed by country, and thus it is not possible to exclude the Forms 1040NR with accuracy from each country. Thus, for an individual country/region, the filing ratio is in fact overstated. However, the **total** filing ratio of 13.06 percent is accurate in that it does exclude Forms 1040NR from the computation.

4. U.S. Department of Health and Human Services, Social Security Administration, **Social Security Bulletin, Annual Statistical Supplement, 1986** (Washington, D.C.: GPO, 1987), Table 134. "SSA Recipients" and "Average SSA Yearly Amount" is based on data as of December, 1985.

5. There are 84,000 "international" returns attributed to the domestic regions, and 5,000 "other" returns, which are included in the total "Percent of U.S. Citizens Filing Returns" computation. There are various reasons why an "international" return would be assigned to a domestic region, such as the presence of a Form 2555 attached to a Form 1040 with a domestic address.

Appendix. Americans Resident Abroad--By Country, 1986

Country	U.S. Gov't Employees	DoD Associated	Other	Total
Algeria	36	26	465	527
Antigua	50	130	3,588	3,768
Argentina	170	57	12,300	12,527
Australia	625	1,513	70,755	72,893
Austria	391	49	7,765	8,205
Bahamas	164	107	6,200	6,471
Bahrain Islands	47	225	1,080	1,352
Bangladesh	321	20	900	1,241
Barbados	338	41	2,980	3,359
Belgium	699	8,059	14,066	22,824
Belize	209	12	2,400	2,621
Benin	61		150	211
Bermuda	56	3,050	4,500	7,606
Bolivia	213	65	2,285	2,563
Botswana	382	1	800	1,183
Brazil	580	129	38,117	38,826
Brunei	12		155	167
Bulgaria	49	27	104	180
Burkina Faso	130	8	297	435
Burma	155	22	58	235
Burundi	55		60	115
Cameroon	317	16	570	903
Canada	931	1,263	363,328	365,522
Cape Verde	19	3	151	173
Central African Rep	110	6	202	318
Chad	58	18	149	225
Chile	0	53	5,900	5,953
China, Peoples Rep	416	52	2,931	3,399
China, Republic of	0		9,000	9,000
Colombia	173	74	18,721	18,968
Congo--Brazzaville	36	9	65	110
Costa Rica	297	40	21,025	21,362
Cuba	31	5,006	1,100	6,137
Cyprus	86	22	1,400	1,508
Czechoslovakia	89	18	493	600
Denmark	85	169	5,000	5,254
Diego Garcia		1,279		1,279
Dominican Republic	650	62	63,000	63,712
East Germany	90	126	90	306
Ecuador	694	68	11,562	12,324
Egypt	655	1,530	10,881	13,066
El Salvador	286	113	3,132	3,531
England	785	69,769	153,100	223,654
Ethiopia	58	11	500	569
Fiji Islands	209	1	863	1,073
Finland	124	32	1,730	1,886
France	1,090	180	36,445	37,715

Appendix. (Cont'd) Americans Resident Abroad--By Country, 1986

Country	U.S. Gov't Employees	DoD Associated	Other	Total
French Polynesia	8		378	386
Gabon	120	6	250	376
Gambia	64		150	214
Ghana	190	17	1,382	1,589
Greece	446	7,124	52,310	59,880
Greenland		333		333
Grenada	76	11	530	617
GU (Guam)		25,208		25,208
Guatemala	129	45	7,788	7,962
Guyana	43	11	518	572
Haiti	115	30	5,500	5,645
Honduras	821	884	5,582	7,287
Hong Kong	380	101	14,579	15,060
Hungary	129	24	1,680	1,833
Iceland	43	5,468	750	6,261
India	571	68	5,275	5,914
Indonesia	494	123	10,600	11,217
Iraq	57	7	137	201
Ireland	59	19	34,000	34,078
Israel	145	141	81,000	81,286
Italy	983	33,365	85,634	119,982
Ivory Coast	311	27	1,514	1,852
Jamaica	220	30	4,200	4,450
Japan	807	96,487	36,813	134,107
Johnston Atoll		173		173
Jordan	393	89	4,866	5,348
Kenya	664	61	7,575	8,300
Korea	1,249	61,670	10,164	73,083
Kuwait	174	50	3,250	3,474
Lebanon	47	31	1,700	1,778
Lesotho	145		411	556
Liberia	416	46	4,000	4,462
Luxembourg	30	34	1,441	1,505
Madagascar	26	11	170	207
Malawi	198	8	485	691
Malaysia	190	60	2,502	2,752
Mali	177	6	109	292
Malta	30	6	800	836
Mauritania	200	7	20	227
Mauritius	16	8	89	113
Mexico	546	98	273,289	273,933
Morocco	826	74	1,385	2,285
Mozambique	30	2	80	112
Nepal	249	14	838	1,101
Netherlands	400	7,033	16,562	23,995
Netherlands Antilles	15	3	1,585	1,603
New Zealand	58	143	9,804	10,005

Appendix. (Cont'd) Americans Resident Abroad--By Country, 1986

Country	U.S. Gov't Employees	DoD Associated	Other	Total
Nicaragua	92	21	1,410	1,523
Niger	306	13	382	701
Nigeria	252	65	8,000	8,317
Norway	120	591	14,500	15,211
Oman	88	39	843	970
Pakistan	672	74	2,598	3,344
Panama	5,218	28,653	10,675	44,546
Papua New Guinea	118		3,380	3,498
Paraguay	220	40	2,030	2,290
Peru	372	106	7,500	7,978
Philippines	2,071	39,031	62,000	103,102
Poland	172	24	5,302	5,498
Portugal	417	3,947	14,135	18,499
Qatar	5		300	305
Romania	105	18	270	393
Rwanda	33		250	283
Saudi Arabia	719	2,281	33,092	36,092
Scotland	11		13,600	13,611
Senegal	187	15	800	1,002
Seychelles	23	6	114	143
Sierra Leone	31	6	558	595
Singapore	122	86	6,000	6,208
Somalia	295	55	197	547
South Africa	389	46	11,217	11,652
Soviet Union	355	115	537	1,007
Spain	591	21,257	57,321	79,169
Sri Lanka	200	17	802	1,019
Sudan	50	25	50	125
Surinam	26	11	127	164
Swaziland	230		250	480
Sweden	106	38	8,100	8,244
Switzerland	363	47	20,884	21,294
Syria	145	21	900	1,066
Tanzania	127	12	817	956
Thailand	961	305	9,230	10,496
Togo	140	8	361	509
Trinidad and Tobago	16	9	2,057	2,082
Trust Ter. of Pacific	100	152	4,500	4,752
Tunisia	305	63	710	1,078
Turkey	395	9,792	3,563	13,750
Uganda	33	6	300	339
United Arab Emirates	69	24	5,080	5,173
Uruguay	133	37	1,300	1,470
Venezuela	439	116	20,183	20,738
West Germany	1,818	518,985	97,937	618,740
Yemen	357	37	2,224	2,618
Yugoslavia	265	54	4,730	5,049

Appendix. (Cont'd) Americans Resident Abroad--By Country, 1986

Country	U.S. Gov't Employees	DoD Associated	Other	Total
Zaire	394	64	3,287	3,745
Zambia	71	9	949	1,029
Zimbabwe	126	16	2,631	2,773
Other (< 100 residents)	141	155	109	405
Total	44,316	959,109	2,020,150	3,023,575

Sources:

U.S. Government Employees--U.S. Department of State, Foreign Affairs Data Processing Center. **Consular Workload System** (unpublished consolidation of FY 1989 Embassy Consular Package Reports, 1987), various pages. Represents data as of September 30, 1986.

Department of Defense (DoD) Associated--U.S. Department of Defense, Directorate for Information, Operations and Reports. **Selected Manpower Statistics--Fiscal Year 1986** (Washington, D.C.: GPO, 1986), Tables 2-4, 3-1, and 4-1. Represents data as of September 30, 1986.

Other--U.S. Department of State, various pages. Represents estimates as of 9/30/86. The methodology for estimating Americans resident abroad varies depending on the country, but generally uses one or more of the following sources: registrations by Americans with a U.S. Embassy or Consulate; passport applications; and statistics on resident aliens compiled by foreign governments.

Trends in Optical Disk Technology

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Optical disk technology consists of read-only and read/write media categories. The most popular read-only media is CD-ROM and the most popular read/write media is WORM. Both types of disks are made up of metallic and plastic layers. Information on the disks is recorded and read with laser beams. Optical disk technology is especially useful to the IRS because of its tremendous storage capacity and long shelf life. Currently, the IRS has several projects which utilize optical disk technology. Most of these projects deal with WORM media.

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Introduction

Laser optical disks are a relatively new technology for the storage and retrieval of various kinds of information. The most obvious advantage to these systems is their tremendous storage capacity. For example, one side of a 12 inch platter can hold one gigabyte of data, about the same amount of data as 10 reels of high density magnetic tape.

Optical disks are part of a larger optical family which also includes optical tape and optical cards. Optical disks themselves have several categories, the two broadest being for read only and read/write media. Read only disks are prerecorded for the user by the manufacturer whereas read/write optical disks are intended to be recorded by the user. Perhaps the most familiar use of the read only technology is the audio compact disk (known as CD-DA or Compact Disk-Digital Audio) that has become so popular in the recording industry. CD-ROM (Compact Disk-Read Only Memory) is the computer industry version of the audio compact disk. The most familiar member of the read/write category is the write-once optical disk (called WORM or Write Once Read Mostly) which was introduced on the market in 1984. The other member of this group, the erasable optical disk, has been demonstrated in the laboratory but has yet to become commercially available.

Definition

Optical disk technology uses high-powered laser beams to write or etch data onto the disk platters. The data can then be read using low-powered laser beams, which sense changes in the reflection of the laser beam light on the disk surface. Because a laser beam is used, the data bits can be written at closer spacing on optical disks than is possible using magnetic media technology. Thus, a 12 inch optical disk can hold up to 10 times the data that a **typical** magnetic disk can hold.

An optical disk platter is composed of three layers of material. The two outer layers, usually made of glass or plastic, surround and protect an inner, usually metallic, layer. The disks are organized like typical magnetic disks, with tracks circling the surface of the platter. These tracks are divided into sections called sectors. The data in these sectors can be accessed either sequentially or randomly. The access times are much faster than those of a magnetic tape but slower than those of magnetic disks.

Writing Data

Several different techniques can be used to write data to optical disks. These methods use high intensity laser beams to either: 1) melt microscopic holes into the disk surface, 2) crystallize tiny spots in a noncrystalline disk surface, or 3) form small gas-filled bubbles on the disk surface. In all three cases, the changes along the surface which represent the bits (holes, spots, or bubbles) are detected by changes in the surface reflection when a low intensity laser beam is moved across it.

These recording techniques produce permanent changes in the disk layer which holds the information. In order to produce an erasable medium, new techniques are needed. One technique currently being researched involves changing the magnetism of the disk surface using a laser beam. Later, these spots can be demagnetized, effectively erasing the disk. Experiments are also being done using heat produced by the laser beam to form small bubbles within a crystalline surface. To erase, the bubbles can simply be recrystallized to again make a uniform surface. Although researchers are still resolving some problems with both methods, erasable optical disks should be available for the general public during 1988.

Disk Types

There are three major types of optical disks of interest to an organization like the IRS:

- **CD-ROM**--Prerecorded disks such as CD-ROM are pressed and recorded at the "factory" using existing audio compact disk technology. This type of disk is used to distribute large data collections to interested users. These users can access the pre-recorded information on the disk in a read-only mode. CD-ROM disks are usually 5 1/4 inches in diameter. Standards have been developed for CD-ROM which help to ensure compatibility of the disks, disk drives and disk formats between different manufacturers. These standards benefit the user, who does not have to worry about where to obtain the many components of his/her system.

- **WORM**--Write-once disks are becoming popular because they are more versatile than CD-ROM in that they are not prerecorded. These disks are available in a system which has both read and write facilities. The data on these disks can be reread as many times as needed but cannot be rewritten. This is a disadvantage in a system which needs frequent data updates. Some typical disk diameter sizes are 5 1/4, 12, 14, and 19 inches.

- **Erasable optical disks**--Current techniques for writing optical disks produce permanent changes in the disks. To produce an erasable disk, new nonpermanent techniques are needed for etching the bits onto the platter. Erasable disks have advantages over WORM disks in on-line systems which require frequent changes as data is updated. It is conceivable that these disks could even take the place of magnetic disks.

Applications

CD-ROM is an ideal way to distribute large amounts of information to interested users. Encyclopedias, manuals, directories, and large data bases can easily be put onto a CD-ROM disk, since these disks are easily replicated and, if enough interested users exist, cheaply replicated. Frequently these disks are sent to subscribers on a subscription basis with update disks available every few months. Through CD-ROM, companies can gain access to expensive data bases by simply subscribing to the right information service. This cuts down on access time by phone into the data bases which distribute information by phone, and only up-to-the-moment information need be paid for at the phone access rates. An example of a data base typically accessed by phone line is LEXIS (a legal reference data base). However, LEXIS can now be obtained on CD-ROM, cutting down on the expense of on-line telephone service. Other data bases typically disperse information via magnetic tapes. Individuals who before could not afford to be on the list for distribution of this type of data because it came in bulky and expensive tape form can now subscribe to the CD-ROM form, which is easy to maintain. The U.S. Geological Survey's global seismographic network is an example of a data base which used to be distributed on tape but now is distributed on CD-ROM. Both users and distributors find CD-ROM to be the less expensive medium.

WORM optical disks are estimated to have an average lifetime of 10 or more years, have a large storage capacity, can be randomly accessed, and are relatively cheap on a cost per bit basis. They are also easily moved and can be connected into optical disk libraries for access to more than one disk. In addition, unlike magnetic media, the read head of a WORM disk is able to operate at a distance from the platter, minimizing head crashes which typically can destroy some of the data on the magnetic disk. These characteristics make a WORM system especially appropriate for tasks involving static information, where the disks would replace an existing paper, magnetic tape, or microfiche system.

WORM optical disks seem ideal for archival purposes. Magnetic disk storage is frequently too expensive and inconvenient since the magnetic disks take up a lot of room. Optical disks offer the option of a quick and efficient medium for on-line access to large amounts of information, which would otherwise have to be stored off-line in paper, tape or microfiche form. Of course, scanners, high resolution CRTs, and laser printers would be the necessary other parts of the system. For situations in which magnetic disk storage is too expensive or bulky, the fact that access times for WORM disks is slower than for magnetic disks is not a relevant consideration.

In this type of system, the permanence of the data can also be an advantage. Many applications of disk storage involve media which must not be altered, such as canceled checks, engineering documentation, financial records, personnel records, medical records, and tax returns. When the information in these documents needs to reflect a change, proper procedure usually requires that some sort of audit trail be established. An optical disk is ideal for holding this type of audit trail information since old information cannot be erased and there is room to add new information. In this way, a permanent audit trail can be established.

Another application of WORM disks involves image storage. Imaging techniques are another new technology which has many applications. Since images require a lot of storage, straining the capacity of magnetic media, optical disks are an excellent storage media for them. Many image archival systems can benefit from optical disk technology. These include medical images found in tomography and radiography, satellite images, maps, X-rays, finger prints, and engineering drawings. Text documents can also be scanned, thereby producing images to be stored. This is an easy way to input data from a textual document such as a tax return.

A major advantage of all types of optical disks is their ability to store video, graphic, text, and audio data all on the same medium. This attribute makes many new applications theoretically feasible. Some CD-ROM vendors have already announced plans for projects dealing with pronouncing dictionaries and talking encyclopedias with pictures. Most exciting, however, is the fact that users will one day be able to produce their own erasable optical disks using this combination of data forms.

Current IRS Optical Disk Initiatives

Optical disk storage systems can be very useful to the IRS for the permanent archival of its many documents. Some IRS optical disk projects are described below.

- **DI/ODSS** (Digital Image/Optical Disk Storage System)--This is the Service's major long-term optical disk project which is expected to be implemented in the mid-1990's. This system will serve as the repository for all tax returns filed, whether they are filed as paper documents or as ASCII data in electronic or magnetic media. The system will also fulfill a variety of other optical storage and retrieval applications on a Service-wide basis.

- **Electronic Filing**--Beginning in 1988, individual, business and employee pension plan returns filed as electronic transmissions or on magnetic media will be permanently stored and retrieved on an optical disk system to be installed at the Cincinnati, Ogden and Andover Service Centers. Earlier, in 1987, a prototype research project related to electronic filing used a microprocessor, tape drive and optical disk drive, to store and retrieve the Forms 1040 filed electronically at the Cincinnati Service center. Eventually, the data from both these systems will migrate to DI/ODSS.

- **Chief Counsel**--This project involves using CD-ROM disks containing legal libraries for legal research rather than buying phone access time for such research. If these published legal libraries are complete enough, they can take the place of much of the time now spent in expensive LEXIS research.

- **CTR Optical Storage**--The Detroit Data Center and the Research Division are currently studying the possibility of archiving both paper and electronically-filed Currency Transaction Reports (CTRs) on an optical disk system.

In addition to the projects described above, there are a number of small scale systems in the planning stages. Most of these involve the imaging of internal use document files for storage and retrieval on optical disks. Internal Audit, Collection and National Computer Center, among others, are involved in optical disk projects.

Notes and References

1. Lewis, Brandt, and Houston. "The Compact Disk Turns into an Information Tool," **Business Week**, July 1986.

2. Rothchild. "An Eye on Optical Disks," **Datamation**, March 1986.

3. Robinson. "Optical Disks Offer High Volume Alternatives to Traditional Peripherals," **Computer Technology Review**, Fall 1984.

4. Robinson. "Mass Storage: The Optical Option," **Electronic Products**, November 1984.

5. Seigle. "Document Image Processing: Optical Disk at Work," **Journal of Information and Image Management**, January 1985.

6. Nace. "Lighting a Path to the Future," **MacWorld**, February 1986.

7. Smith, Cuneo, and Flynn. "An Optical Memory That Can Be Wiped Clean," **Business Week**, June 1987.

8. Kerr. "Compact Disks Shrinking Data Costs," **Science**, August 1987.

9. Sehr. "Optical Products Inching Their Way to Market Reality," **ComputerWorld**, August 1987.

Trends in Development of Applications Using Artificial Intelligence Technology

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In January 1985, nine program participants began two years of training in artificial intelligence (AI) at three major AI universities. At the same time, four selectees began one year of training at an established AI research center. Upon completion of training, these employees returned to the newly created IRS AI Lab, where they began to identify, develop and manage 13 projects. In addition to applications currently under development, potential projects of broader scope are also identified. The range of future AI applications in the IRS, and of knowledge-based systems in particular, appears to be open-ended.

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Historical Perspective

Artificial Intelligence (AI) Background

Marvin Minsky, one of the field's founders, defines AI as "the science of making machines do things that would require intelligence if done by men." In addition, although AI embraces disciplines as diverse as cognitive psychology, linguistics, and philosophy, at its core it is a sub-discipline within computer science that attempts to model human processes of perception, thought, and action. Knowledge-based systems (KBS) is the branch of AI that attempts to model human reasoning. KBSs that reach a level of performance equivalent to human experts are often called expert systems. Nearly all present and contemplated IRS AI applications are KBSs.

Another way of characterizing AI involves distinctions between numeric and symbolic computer processing. In this view, numeric computing underlies traditional data processing, while symbolic computing forms the basis for many AI and KBS methods. Symbolic computing involves creating complex data structures that represent objects, concepts, and their interrelationships. Symbolic computing works best on non-numeric tasks, tasks with unknown, incomplete, or uncertain data, and in environments subject to frequent change.

The field of AI is 30 years old; the earliest KBSs are even more recent, dating back only 15 years. Early KBS applications were in the domains of diagnosing and treating diseases, locating mineral and oil resources, and configuring computers. Domains are application subject areas or fields of study, rather than AI techniques and methods.

Only during the last few years have methodologies, toolkits, and shells been commercially available to aid in developing KBSs. A shell is a fully featured KBS from which the domain knowledge has been removed so that new knowledge from the domain of interest can be installed. Understanding of KBS technology has also progressed to the point where it now can be applied to more unstructured or qualitative

domains such as taxes, law, and financial services. Although the domain of taxes appears to be quite promising, a review of the literature turned up only a handful of tax-related systems.

The History of the IRS AI Program

In 1983, staff of the Assistant Commissioner for Planning, Finance and Research conducted a study that focused on the potential for applying AI technology to IRS tasks. As part of this study, leading academic researchers and business practitioners were interviewed. The study concluded that AI techniques could be directly applied to IRS information-processing problems, but warned that IRS was unlikely to be able to hire AI researchers and knowledge engineers from outside the agency.

As a result of the study, the IRS created two training strategies, consisting of a one-year program and a two-year program. The one-year program was designed to develop AI project managers capable of overseeing vendor work and evaluating contract proposals for AI services. The two-year program was designed to educate domain experts in AI techniques and create a cadre capable of developing extensive applications in-house.

The Assistant Commissioner for Planning, Finance and Research was the key sponsor and guiding force behind the IRS AI program. Not only did this organization fund all training and subsequent AI Lab equipment costs, it also created the mechanism and structure for the program. Seven other Assistant Commissioners agreed to participate in the development of the AI program by selecting one or two of their employees to receive the training. Employees were selected for the program based on their knowledge of the overall operations of the sponsoring function, their proven academic record, and their computer experience. Following the training, the participating functions agreed that their employees would spend from one to two years developing applications within the Research Division's newly created AI Lab.

The training consisted of two stages. The first stage, which began in October 1984, was an eight week "boot camp" that prepared selectees in computer programming and AI fundamentals. Then, nine selectees began a two-year course of graduate-level study in AI at one of three leading universities (Massachusetts Institute of Technology, Carnegie-Mellon University, or University of Pennsylvania). An additional four candidates began nine months of training in AI contracting, project management, and project development work at Bolt, Beranek and Newman, Inc., an established AI contractor and research center. Currently, a second class of selectees is in training at the same sites as the first class.

Overview of Current AI Lab Projects

There are currently 13 projects undergoing development in the AI Lab. Most of these projects are specific to the functions for which they are being developed. Due to the number and diversity of applications, nearly all projects have only one AI Specialist assigned, either to actually design and develop the project, or to manage its development. The Assistant Commissioner organization that will use the application is shown in parentheses following the project title.

Tax Return Issue Identification Expert System (Examination)

At present, income tax returns are screened for audit potential using a computerized statistical formula called DIF. Then tax auditors identify specific audit issues from those computer-selected returns. The Issue Identification Expert System project is intended to develop a prototype that can automatically identify issues with good audit potential from Forms 1040, 1040A, and 1040EZ (Individual Income Tax Returns). The system, currently under development jointly by the AI Lab and an established AI firm, initially covers two classes of returns: those with total positive income between $25,000 and $50,000, and those with total gross receipts on Schedule C of $100,000 or more. The development and testing of this prototype will take approximately one year. If the system can successfully classify these two classes of returns, it will be expanded to include all classes of Individual Income Tax Returns, and will be tested in one or two service centers. Assuming that the fully developed prototype is successful, nationwide implementation by 1991 is anticipated.

Reasonable Cause Determination Expert System (Collection and Taxpayer Service and Returns Processing)

The main objective of this project is to design and develop an expert system to assist Collection and service center employees in applying "reasonable cause" guidelines for abating late-filing and late-payment penalties. The project was motivated by GAO and IRS Internal Audit studies that showed an unacceptably high error rate in reasonable cause determinations. Major emphasis will, therefore, be placed on designing a system that will not only be user-friendly, but that also will increase the quality and consistency of reasonable cause determinations.

Automated Workload Management Expert System (Computer Services)

The objective of the Automated Workload Management Expert System prototype project is to use AI technology in developing a networked, comprehensive, on-line production control system that manages all computer and print system workloads in the service centers. The project is a joint effort of the Systems Management and Operating Services Division and the AI Lab. Proposed features include:

- Dynamic scheduling to eliminate batch schedules
- Automatic initiation of production runs
- Centralized data base with comprehensive workload data
- On-line feedback to aid in adapting to changing conditions
- On-line inquiry for monitoring of entire production process
- Extensive batch history reporting to aid in trend analysis
- Modeling of current and projected production workloads to facilitate management planning and forecasting
- Automated monitoring of all production work in progress
- Reminder prompting for late runs and exceptional conditions
- Interface with the tape library management system

Estate Tax Return Perfection and Classification Project (Examination)

This project involves developing an expert system that captures the knowledge currently used by estate tax attorneys for perfecting and classifying estate tax returns. The system will be designed as an interactive, user-friendly expert assistant that will enable trained para-professionals to perfect and classify estate tax returns by entering data into the system and answering questions asked by the system. Once implemented, this application will allow estate tax attorneys to redirect their efforts to the more cost-effective task of auditing estate tax returns.

Correspondex Expert System Interface (Taxpayer Service and Returns Processing)

The main objective of this project is to use AI and modern networking technologies to develop a user-friendly intelligent interface to enhance the existing "Correspondex" system used by service center employees in responding to taxpayer correspondence. The expert system interface will assist users in quickly compiling proper paragraphs or letters relating to a specific area via menu-driven software. In addition, by using the IDRS data base, a large amount of user-input information will be automatically generated, verified, recalled, and reformatted by the interface system. This will reduce the error rate and labor cost of the current Correspondex system. In addition, many user errors in spelling, grammar, and keypunching will also be prevented.

Link Analysis System (Criminal Investigation)

The IRS has access to several very large data bases, such as those for bank transactions and U.S. Customs records. The aggregate information in these data bases is so extensive, however, that it is difficult and time-consuming to make intelligent connections by hand between the various items, and no commercially available software exists to make these connections. The objective of the Link Analysis System is to identify items from different data bases that relate to a specific person, and draw a diagram that illustrates the relationships between the individual and the items, and any other entity related to the transaction. When a person is already under suspicion for criminal tax behavior, the system may be invoked to aid Special Agents in determining the potential for criminal case development. In addition, Link output may be of use as a trial exhibit. At present, the entire process is done manually.

SAT Automated Data Preparation Expert System (Computer Services)

Preparing test data for the Systems Acceptance Testing (SAT) function is currently an expensive and time-consuming manual process. A computer consulting firm hired by SAT determined that the process could be automated, and that use of AI technology should be examined. Thus, the goal of this project is to determine the feasibility of using AI technology in developing an expert system that will model the current manual data generation process. Working with SAT, target areas have been identified that are representative of the data generation

problem, but that are small enough for a working prototype to be developed within a shortened time-frame. The prototype is being designed so that, if it proves successful, it can easily be expanded into a full-scale system.

Automated Underreporter Expert System (Information Systems Development)

Currently, tax adjustments proposed in cases where taxpayers underreport their income are processed manually in the service centers. Tax examiners use data from many sources to determine whether taxpayers have properly reported income on individual income tax returns. An Automated Underreporter Task Force, led by the Information System Development (ISD) function, is developing the concepts for automating this process. As part of their design, the Task Force is working with the AI Lab to test the feasibility of incorporating KBS technology in their automation plans. Once the Lab has identified areas that seem appropriate for expert system applications, the Lab will design and build expert systems that may be embedded within the future automated underreporter system.

Taxpayer Service Assistant (Taxpayer Service and Returns Processing)

Taxpayer Service Representatives (TSRs) are the front-line assistors who answer questions about taxes posed by taxpayers. The primary objective of this system is to enable TSRs to answer more difficult technical questions that are beyond their expected area of knowledge. At present, such questions are referred to specialists to answer. The feasibility prototype is designed to provide accurate, consistent, and complete advice on several of over 100 tax topics that TSRs might be called upon to answer. When the prototype design proves acceptable, the issue-handling capability will be expanded. In addition to providing specific answers on more complex tax questions, the prototype will possess extensive explanation and justification facilities at several levels of expertise. The TSA can also serve as an aid in on-the-job training through exploration of covered tax topics, and working of prototypical cases.

Tax Technician's Assistant Prototype (Taxpayer Service and Returns Processing)

The initial feasibility prototype is designed to assess the use of AI tools, techniques, and equipment in assisting tax technicians in the service centers. The initial system is aimed at processing tentative carryback cases received on Form 1045 (Application for Tentative Refund), and Form 1040X (Amended Individual Return). The objectives of the system are: to enable a non-expert tax technician to process most carryback cases, to shift some of the processing from a tax technician to a clerk, and to increase the efficiency of processing where expertise is required.

Magnetic Media Waivers Expert System (Computer Services)

This system will determine whether a waiver should be granted to taxpayers who wish to file information returns on paper, rather than on magnetic media. Taxpayers request this waiver on Form 8508, which is typically filed with a number of attachments. The system's primary

objective is to perform waiver determinations on a consistent and timely basis. Secondary objectives include exploration of the limitations of microcomputer-based KBS and their integration into the operating environment of the National Computer Center.

Employee Plan Actuarial Examination Expert System (Employee Plans and Exempt Organizations)

The goal of this proposed expert system demonstration prototype is to assist Employee Plan Specialists in developing comprehensive, thorough, and consistent analyses of actuarial data during the examination of an Employee Plan (EP). Although actuarial expertise is necessary for success, examinations are often conducted by EP Specialists with only accounting backgrounds. The complexity of the actuarial elements and the mathematical computations involved makes the identification and analyses of the issues difficult. The number of IRS actuaries is quite small, and currently they are all located in the National Office. This expert system will provide the expertise needed by EP Specialists in the field to accurately analyze the actuarial elements of a pension plan.

International Section 482 Expert System (International)

The International section 482 expert system prototype will attempt to replicate the reasoning process currently used by international examination experts in analyzing complex cases involving the allocation of income and expenses between multinational corporations. The section 482 regulations are powerful enforcement tools for ensuring that multinational corporations pay the correct amount of Federal tax. However, recent studies have shown that International Examiners are not consistent in their application of section 482 regulations. Therefore, in order to improve their accuracy and consistency, this project will focus on creating a case selection and issue identification system for section 482 examinations, capturing the knowledge used by selected section 482 experts in working these cases, and disseminating this expertise in a systematic manner to all International Examiners.

Future Directions and Potential Applications

There are numerous tasks within each sponsoring function and across functions for which AI, and more specifically KBS, technology might be suitable. To date, nearly all of the projects under development in the AI Lab are KBS and are specific to one function. However, generic IRS applications and AI tools customized for IRS use are also quite promising, as are projects in applied research.

What sorts of generic tasks exist within each function and across functions that might be suitable to AI technology? **A useful task decomposition results from splitting information processing tasks (under which AI is included) into their generic components: input, process, and output.** The input activity takes external data, information, and knowledge, and converts it into a form understandable by the system. The process activity manipulates the encoded data to accomplish system goals. The output activity takes the results of the internal processing and presents them to the user in a meaningful and flexible format.

Input-related applications tend to be generic to any organization that uses information processing. For instance, at IRS, conventional data processing systems are used to assist in transcribing return data onto magnetic media, checking this raw data for errors and inconsistencies, and converting the data into formats usable by the next stage --processing-related programs.

Input-related AI opportunities fall into several categories: converting handwritten or printed documents directly onto magnetic media as raw data (intelligent optical character recognition--OCR); constraining and validating on-line user inputs through use of intelligent form templates; detecting and correcting errors and inconsistencies; and translating text into conceptual data structures that can be used by process-related KBS.

Increasing the current volume of hand-written or printed hardcopy that can be transcribed directly onto magnetic media would be of great value to the IRS. Optical scanning equipment is currently limited by software to only reading numbers hand-written in a specific, predetermined style, or certain printed fonts, with high accuracy; additional software in the form of AI pattern-matching, neural net learning, and numerical resolution techniques should be able to extend this capability. Even though return data can be highly constrained by comparing the sum of line amounts to subtotals, the difficulty of this application lies in recognizing numbers for a great diversity of handwriting styles.

A very useful generic application would be the development of "smart" forms. Several Lab projects make use of, or plan to make use of, on-screen tax form templates that look like existing paper forms, such as tax returns and checklists. These smart forms would be more versatile, since they could also: constrain what data types can be entered, answer questions about tax terms or line items, detect inconsistencies and conflicts between data, deal with missing information, diagnose errors made by form users and suggest corrections, and generate explanations for actions to be taken by the system.

Natural language processing (NLP) is the branch of AI that converts plain text into syntactic and conceptual data structures from which KBSs can reason. Use of NLP holds promise in several application areas. First, NLP can serve as an intelligent front-end for data bases, text retrieval systems, and spreadsheets by transforming English typed in by users into commands and keywords usable by the system. A second, more difficult, task would be to take text that is already on magnetic media and translate it directly for use by KBSs. Sources of text that already exist on magnetic media, such as commercial tax law data bases and IRS publications and manuals, consist of tax law terms and IRS terminology that may be specific and unambiguous enough to enable use of existing NLP techniques. Finally, on-line user queries and responses could be interpreted and represented in terms of needs, beliefs, intentions, and goals that a KBS might be able to reason about. This ability could allow a system to generate summaries, explanations, and justifications of advice at levels of sophistication most appropriate to individual users, and to determine if users understood the system's responses.

Tasks within the **process** phase tend to be more function-specific than input or output tasks. Some ideas include: aid in processing of tax returns and related transactions through use of intelligent assistants; evaluate job applicants; generate equipment requisitions and contracts; develop "smart" handbooks, manuals and training materials; assist in decision support and strategic planning.

There are many administrative tasks that are generic across IRS, and often across the entire Federal government, that are conducive to KBS strategies. Administrative tasks and procedures found in handbooks tend to be primarily symbolic and well-structured, but also require some judgment. Such tasks are ideal for successful applications using known KBS methodologies.

Decision support systems (DSS) using conventional data processing methods are commonplace; systems that use AI techniques are not. Both intelligent front-ends to databases and intelligent spreadsheets are successful applications that expand the usefulness of existing DSS. The next step is the development of tools that are able to model the problem under review and provide a more qualitative, human type of decision support. Applied research is underway in leading business schools in this area.

As with input-related applications, **output** applications are often generic across IRS functions. KBS software development shells often come with explanation, justification, and screen interface capabilities that have been developed through many years of research. However, several output applications involve active research areas in AI: generating coherent, well-written text that is not predetermined, summarizing stories, and justifying answers from causal reasoning. Some possible IRS applications include: interpreting encoded account information; analyzing numerical data; generating taxpayer notices and letters directly from account conditions; explaining, justifying, and summarizing advice; and providing intelligent screen interfaces and graphics.

For example, several million account transcripts are requested each year, primarily for use in resolving processing errors, taxpayer inquiries, and taxpayer problems. At present, the sequence of transactions from which each of these transcripts is composed must be manually interpreted by a knowledgeable tax technician into a cogent story before action can be taken. If encoded transcripts were interpreted into a narrative form by an AI system, users would have a more coherent idea of what transactions posted, the implications of the posting sequence, existing errors, and required actions. An application of this type would greatly aid less experienced personnel, and could be accomplished with present AI technology.

Great quantities of raw and summary data are now generated in an attempt to provide managers with information on which to base decisions. Systems that could detect significant deviations from norms, and perhaps reason about their causes, would be quite useful, especially in managing, planning, and scheduling tasks. For example, KBSs could screen voluminous management information system reports for values and relationships that are unusual or unexpected, make inferences and hypotheses as to why the numbers seem out of line, provide possible explanations in English, and suggest possible courses of action.

Future Opportunities and Benefits

As discussed above, there are many cross-functional and generic IRS applications, as well as AI tools customized for IRS, that have great potential. Applied research may indirectly yield even larger opportunities. Although applied research projects tend to take longer to develop and implement than more specific applications, these projects may present larger potential benefits, and could be developed concurrently with vendors and university researchers.

As with conventional DP technology, AI technology can be instrumental in increasing productivity. However, this is usually best achieved by leveraging the efforts of employees, not by replacing employees. Studies have shown that KBSs are best suited as assistants so that the locus of control remains with the employee, not with the system. KBSs should be used to assist in managing the complexity of a task, and to accomplish the more repetitive aspects of a task, leaving the less routine and more challenging work to people.

Another AI opportunity involves capturing and preserving institutional expertise. When experienced and knowledgeable employees retire or otherwise leave the Service, their expertise, a valuable resource, is lost. Today KBSs can capture heuristics in certain specific domains; in the future, by using the fruits of applied research, the breadth of expertise that can be captured may be enlarged considerably.

Finally, KBS technology is well-suited to assist IRS in reaching its organizational goals. Most of these goals are expressed in symbolic, qualitative terms rather than in numeric, quantitative terms. Over the past three years, there has been an increased emphasis on providing quality service to taxpayers. This quality goal consists of several components: accuracy, consistency, completeness, and timeliness. Although the processing of returns involves massive numeric calculations, most employee tasks and contacts with taxpayers involve non-numeric reasoning, explanation and justification, and require processing mostly symbolic data under uncertain conditions. Thus, use of AI technology will enable greater accuracy and completeness in symbolic processing just as data processing has fostered greater accuracy and timeliness in numeric processing.

The Importance of Unreported Income Probes on High DIF-Scored Returns

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The discriminant function (DIF) formulas used in audit case selection are based on the results of in-depth audits conducted for the Taxpayer Compliance Measurement Program. These audits include a thorough probe for unreported income. Thus, operationally, high DIF-scored returns tend to reflect the characteristics of returns with unreported income. This article examines the extent and magnitude of unreported income among taxpayers and determines the effect of unreported income on the expected yield from DIF. From our analysis we have demonstrated that unreported income is a significant problem--both in terms of number of returns and dollars--and is very much correlated to DIF score. Thus, the yield from operational DIF-source audits is very much dependent on the identification of unreported income.

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Background and Objectives

To measure taxpayer compliance, the IRS periodically conducts a Taxpayer Compliance Measurement Program (TCMP) survey of individual tax returns. The TCMP survey is conducted on a probability sample of tax returns and involves an in-depth, line-by-line audit of each of these tax returns--including a probe for income not reported by the taxpayer. The results of this survey are also used to develop the discriminant function (DIF) formulas for audit case selection.

While TCMP performs an in-depth audit of every line item on the tax return and schedules, an operational audit is less intense. The operational "office" audit concentrates on issues identified for investigation. The operational "field" audit covers a broader scope and is not limited to the identified issues. Both office and field audits include a probe for unreported income. However, with an in-depth audit, the TCMP probes on unreported income tend to be much more thorough. Therefore, a large portion of the TCMP tax change results from uncovering unreported income. Since DIF formulas are developed based on TCMP data, the formulas are very likely to reflect the characteristics of returns with unreported income. **Thus, operationally, high DIF-scored returns will most likely have unreported income.**

The objective of this article is to determine the effect of unreported income on the expected yield from DIF if the unreported

income is not identified operationally. Data from TCMP Phase III, Cycle 8 (obtained from a survey of Tax Year 1982 individual tax returns) was used for our analysis. The data has been reformatted to reflect 1986 tax law changes. Four audit classes, representing a wide variety of tax returns, were selected for analysis. These audit classes include nonbusiness, farm and nonfarm business returns as well as low, moderate, and high income returns, as described below:

Audit Class 1--Simple nonbusiness returns with total positive income (TPI) under $25,000.

Audit Class 4--Nonbusiness returns with TPI over $50,000 but under $100,000.

Audit Class 7--Nonfarm business returns (Schedule C income dominated) with total gross receipts (TGR) over $25,000 but under $100,000.

Audit Class 10--Farm business returns (Schedule F income dominated) with TGR $100,000 or more.

Data Analysis

The total unreported income (UI) considered in this article consists of unreported nonbusiness, Schedule C, and Schedule F incomes. Even though many unreported incomes, such as wages and 1099 type incomes, will be caught during the information returns processing, we included them in our analysis to determine the full impact of UI. We focused our analysis on the contribution of UI to tax adjustment. Specifically, we compared UI and the tax increases from TCMP audits with and without UI by audit coverage range after the cases have been ranked in descending DIF score order. The tables that follow reflect the results at low audit coverage levels, including the expected audit coverage level, while the figures reflect the results across the entire audit class by 10-percent range, or decile, of DIF scores. The tables also show the percent of taxpayers with any UI, with over $1,000 UI, and with over $10,000 UI.

Audit Class 1 - (Simple Nonbusiness with TPI under $25,000)

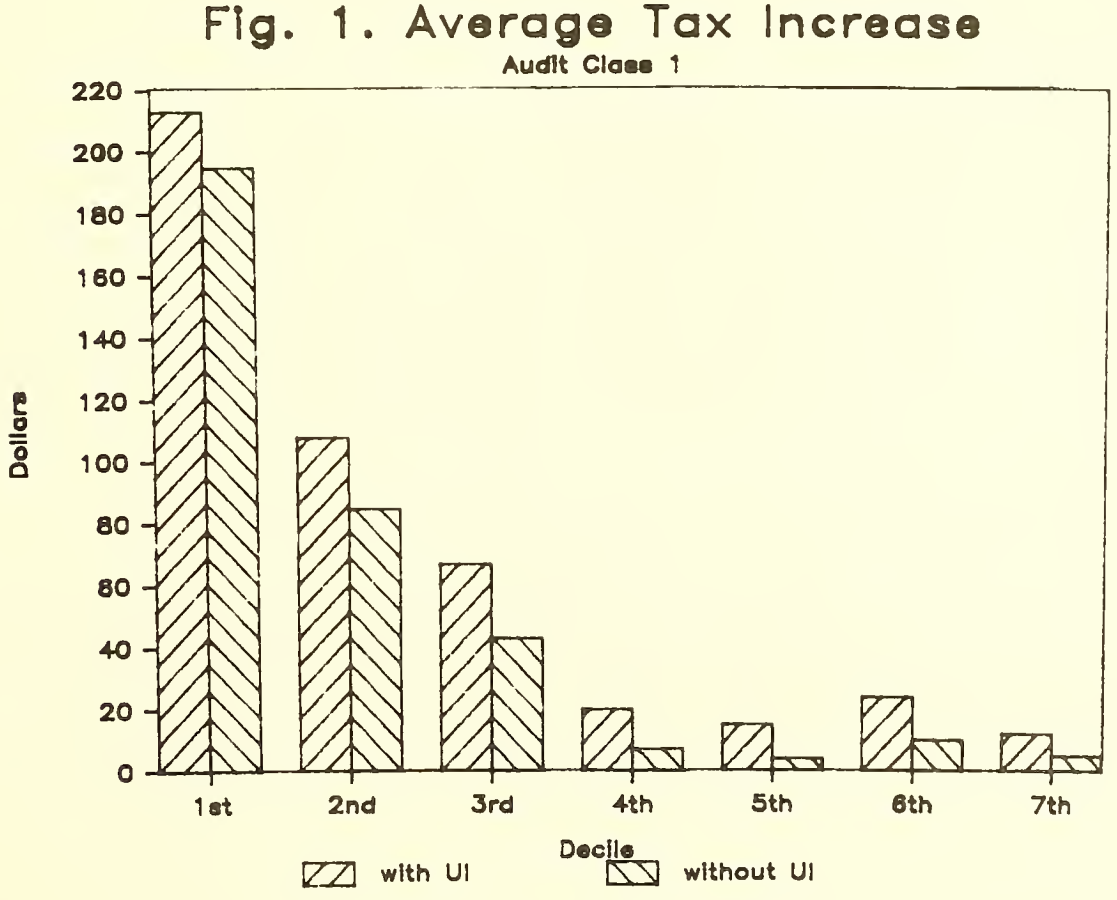
As shown for audit class 1 in Table 1, the average total UI per taxpayer is estimated to be $139 when audit coverage is 100 percent. The average is about the same at other audit coverage levels. Nearly 30 percent of taxpayers in this audit class have unreported income, however, the amount tends to be small. Thus, the effect of this unreported income on the average tax increase is also small. At the expected audit coverage level of 0.9 percent, the average tax increase is $550 with UI and $539 without UI. Thus, there would be little drop off in the expected yield from DIF in this audit class if the UI is not detected.

Table 1. Audit Class 1: Average Unreported Income, Average Tax Increase, and Percent of Taxpayers With Unreported Income at Various Audit Coverage Levels

Audit Coverage Level (percent)	Average Total UI (dollars)	Average Tax Increase with UI (dollars)	Average Tax Increase without UI (dollars)	Average Tax Increase Diff (dollars)	Percent of Taxpayers with UI $0 or Under	Percent of Taxpayers with UI $1 or More	Percent of Taxpayers with UI $1,001 or More	Percent of Taxpayers with UI $10,001 or More
0.5	138	538	518	20	62.3	37.8	6.0	0.0
*0.9	79	550	539	11	66.6	33.5	3.1	0.0
1.3	148	519	497	22	65.0	35.1	7.5	0.0
1.8	128	445	426	19	67.5	32.5	4.6	0.0
100	139	51	38	13	70.3	29.7	3.0	0.2

* Expected audit coverage level in this class.

Figure 1 compares the average tax increase with and without UI by decile of DIF score. For example, for those cases ranked



in the 2nd decile (i.e., the top 11 percent through the top 20 percent), the average tax increase is about $110 with UI and $85 without UI, a difference of only $25. Similarly, the impact of UI on the tax increase is also small in other deciles.

Audit Class 4 - (Nonbusiness with TPI $50,000 - $100,000)

Table 2 shows that the average total UI per taxpayer in audit class 4 is $776. The average is much higher for high DIF-scored cases; for example, the average is $1,663 at the expected audit coverage level of 3.5 percent. About 52 percent of the taxpayers in this class have unreported income. At the expected audit coverage level, about 67 percent of the taxpayers have UI, about 28 percent have over $1,000 UI, and about 4 percent have over $10,000 UI.

The effect of unreported income on the average tax increase is significant at low coverage levels, as shown in Table 2. For example, at the expected audit coverage level the average tax increase is $1,738 with UI and $1,359 without UI, a difference of $379. **Thus, there would be a significant drop in the expected yield if the UI is not detected.** UI has a similar effect on the average tax increase at other coverage levels.

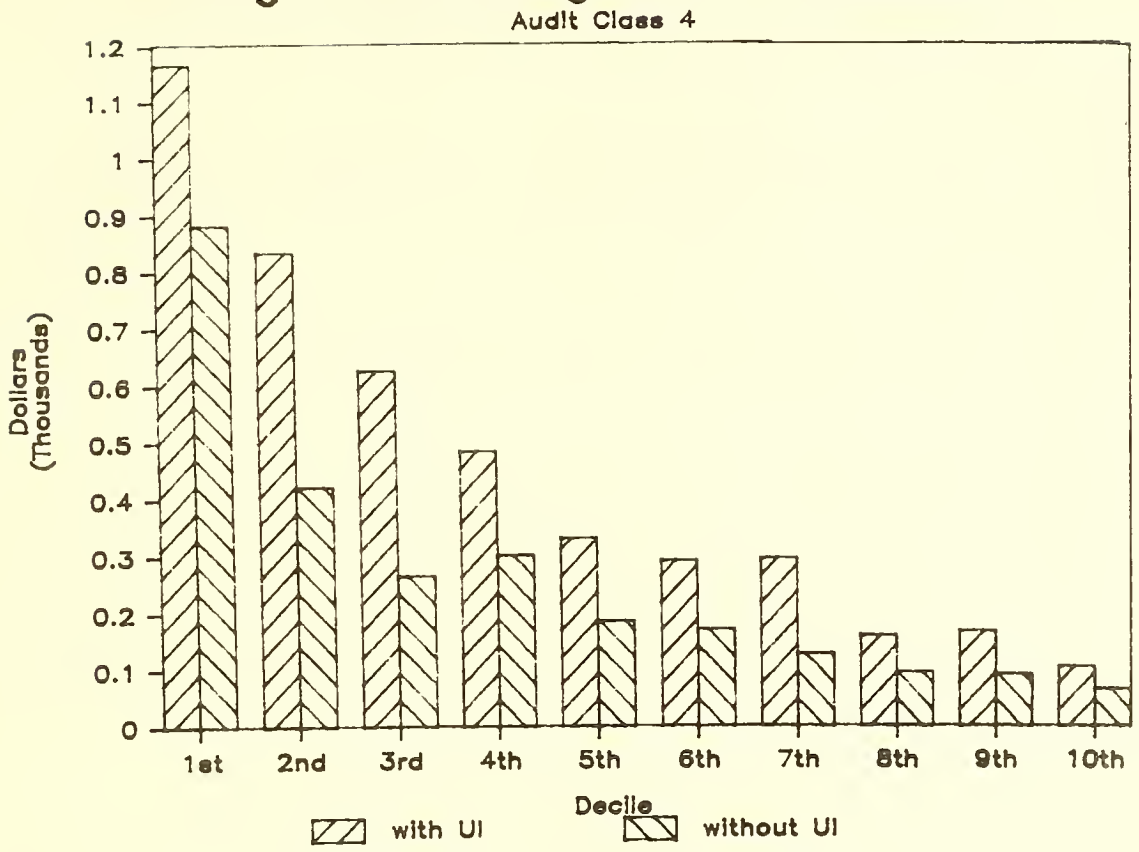
Table 2. Audit Class 4: Average Unreported Income, Average Tax Increase, and Percent of Taxpayers With Unreported Income at Various Audit Coverage Levels

Audit Coverage Level (percent)	Average Total UI (dollars)	Average Tax Increase (dollars)			Percent of Taxpayers with UI			
		with UI	without UI	Diff	$0 or Under	$1 or More	$1,001 or More	$10,001 or More
2.5	2,073	2,067	1,563	504	34.7	65.4	27.2	5.5
*3.5	1,663	1,738	1,359	379	33.0	67.0	28.3	4.1
4.5	1,668	1,638	1,267	371	35.7	64.3	27.1	4.0
7.0	1,418	1,346	1,027	319	37.4	62.5	23.6	3.4
100	776	449	263	186	47.8	52.2	10.9	1.3

* Expected audit coverage level in this class.

Figure 2 shows that UI accounts for more than 50 percent of the tax increase in some DIF-score deciles. The impact is consistently large in every decile.

Fig. 2. Average Tax Increase



Audit Class 7 - (Nonfarm Business with TGR $25,000 - $100,000)

The average total UI per taxpayer in audit class 7 is $2,206, as shown in Table 3. The average is much higher for high DIF-scored cases; for example, the average is $8,978 at the expected audit coverage level of 3.25 percent. Almost 62 percent of taxpayers in this audit class have unreported income. At the expected audit coverage level, 74 percent of the taxpayers have UI, about 46 percent have over $1,000 UI, and more than 15 percent have over $10,000 UI.

Table 3 shows that UI has a major effect on the average tax increase at low coverage levels. For example, at the expected audit coverage level, the average tax increase is $4,180 with UI and $2,652 without UI, a difference (due to UI) of $1,528. Thus, **there would be a very large drop in the expected yield from DIF if the UI is not detected.** A similar effect of UI on the tax increase can also be observed at other coverage levels. However, UI makes a much larger difference in the size of the tax increase for high DIF-scored cases than it does overall.

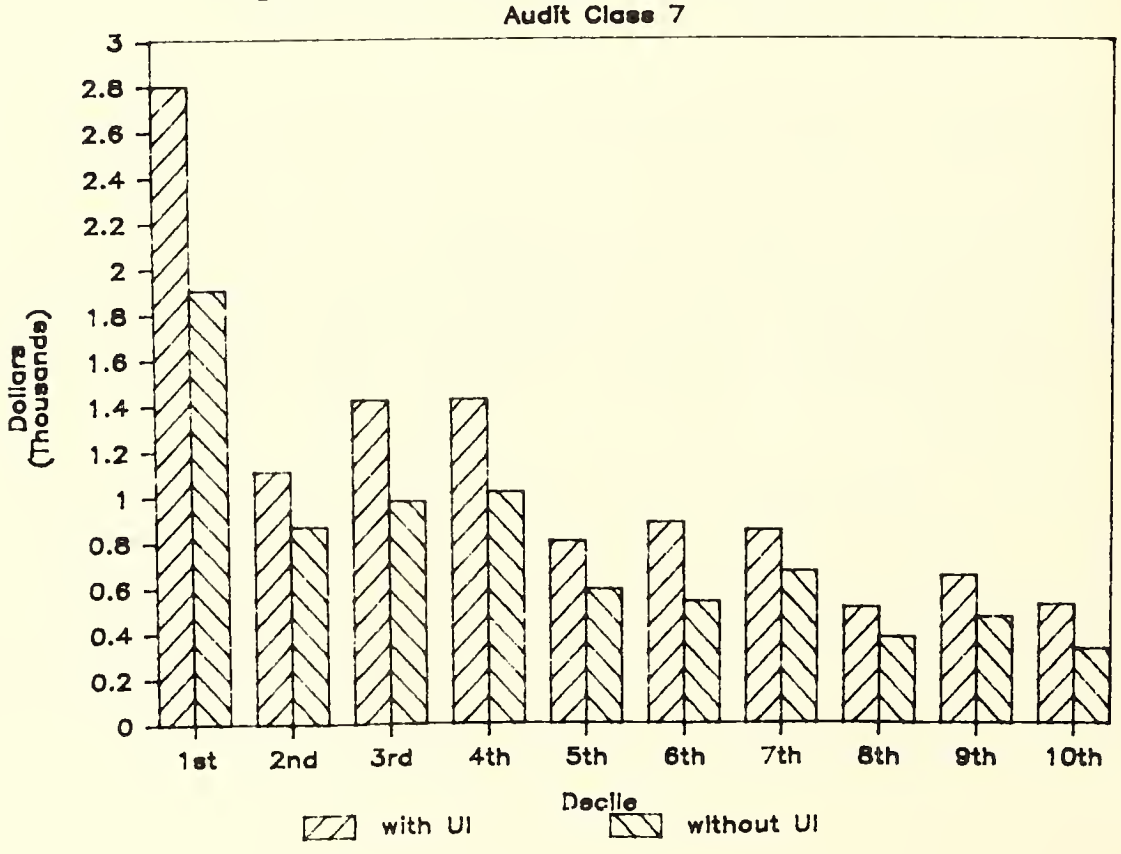
Table 3. Audit Class 7: Average Unreported Income, Average Tax Increase, and Percent of Taxpayers With Unreported Income at Various Audit Coverage Levels

Audit Coverage Level (percent)	Average Total UI (dollars)	Average Tax Increase with UI (dollars)	Average Tax Increase without UI (dollars)	Average Tax Increase Diff (dollars)	Percent of Taxpayers with UI $0 or Under	Percent of Taxpayers with UI $0 or More	Percent of Taxpayers with UI $1,001 or More	Percent of Taxpayers with UI $10,001 or More
2.25	6,850	4,370	3,022	1,348	30.4	69.6	39.1	10.5
*3.25	8,978	4,180	2,652	1,528	25.9	74.0	46.2	15.5
4.25	7,673	4,235	2,884	1,351	24.2	75.7	47.7	15.3
6.50	5,494	3,155	2,205	950	32.3	67.7	38.0	12.4
100	2,206	1,102	777	325	38.1	61.9	31.2	5.7

* Expected audit coverage level in this class.

Figure 3 shows the relationship of average tax increase to DIF score. For cases in the first decile (the top 10 percent) of

Fig. 3. Average Tax Increase



the DIF scores, the impact of UI is much more significant than at other deciles.

Audit Class 10 - (Farm Business with TGR $100,000 or more)

Table 4 shows that the average total UI per taxpayer in audit class 10 is $4,124. The average is much higher for high DIF-scored cases; e.g., the average is $12,835 at the expected audit coverage level of 6.5 percent. Over 63 percent of the taxpayers in this audit class have unreported income. At the expected audit coverage level, almost 65 percent of the taxpayers have UI, 41 percent have over $1,000 UI, and over 15 percent have more than $10,000 UI. The percent of taxpayers with UI is relatively constant over different coverage levels.

The effect of UI on the average tax increase is large at every coverage level considered, as shown in Table 4. At the expected audit coverage level, the average tax increase is $7,057 with UI and $3,729 without UI, a difference of $3,328. At this coverage level, UI would account for almost 50 percent of the tax increase. **Thus, there would be a very dramatic decrease in the expected yield if UI is not discovered.**

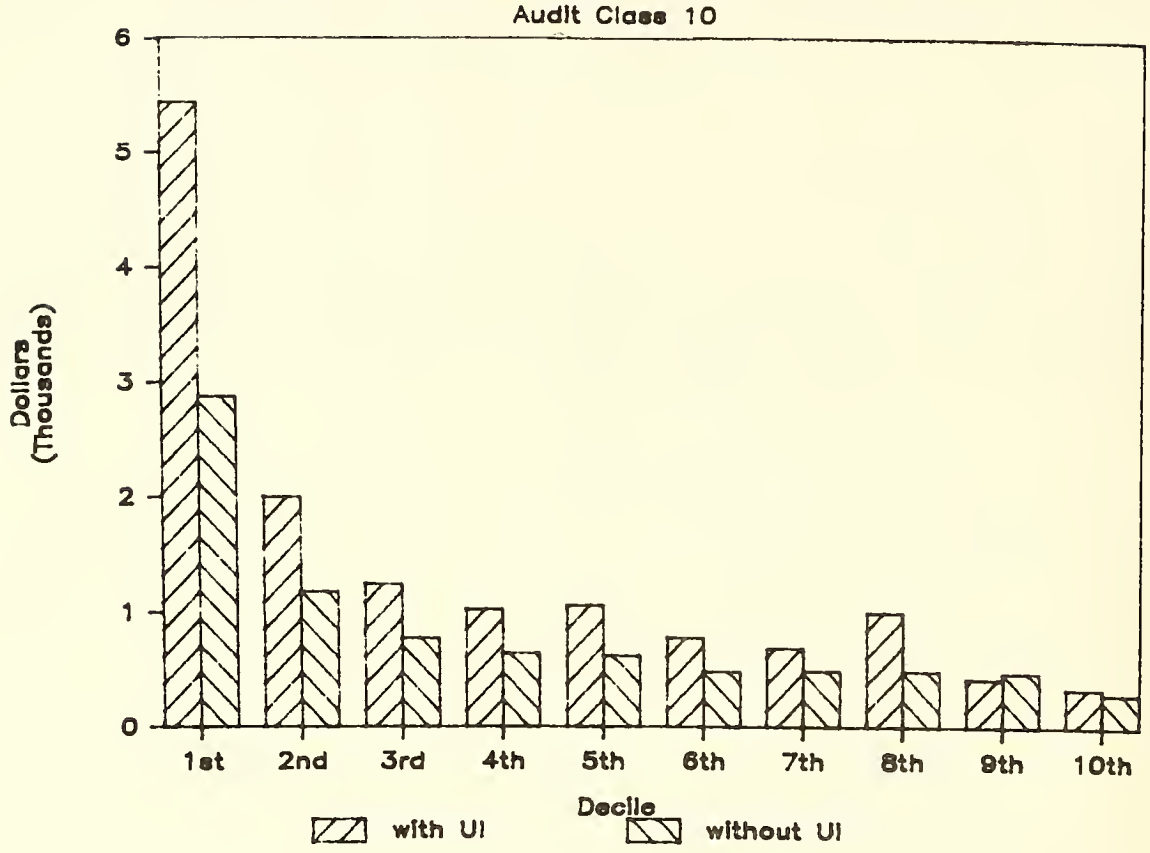
Table 4. Audit Class 10: Average Unreported Income, Average Tax Increase, and Percent of Taxpayers With Unreported Income at Various Audit Coverage Levels

Audit Coverage Level (percent)	Average Total UI (dollars)	Average Tax Increase			Percent of Taxpayers with UI			
		with UI	without UI (dollars)	Diff	$0 or Under	$1 or More	$1,001 or More	$10,001 or More
5.5	14,184	7,616	3,930	3,686	35.1	65.0	40.8	14.8
*6.5	12,835	7,057	3,729	3,328	35.1	64.8	41.0	15.5
7.5	11,729	6,499	3,426	3,073	35.4	64.6	41.2	15.9
13.0	8,457	4,774	2,562	2,212	35.4	64.6	39.7	12.9
100	4,124	1,413	842	571	36.6	63.3	35.7	10.1

* Expected audit coverage level in this class.

Figure 4 shows the relationship of tax increase to DIF score for audit class 10. Without UI, the tax increase would decrease by about 50 percent, or about $2,500, in the first decile. The impact of UI is smaller in other deciles, but still significant.

Fig. 4. Average Tax Increase



Conclusion

From our analysis of these four audit classes, we have demonstrated that unreported income is a significant problem, both in terms of number of tax returns and dollars. Unreported income detected during a TCMP audit accounts for a very large portion of the tax increase in audit classes 4, 7 and 10. We also found that unreported income is very highly correlated to DIF score; i.e., higher unreported income in general goes with higher DIF scores. **Thus, the yield from DIF-source audits is very much dependent upon the identification of unreported income.**

Currently, the Service develops DIF formulas to select those returns with the highest likelihood of having large tax changes. This analysis demonstrates that the Service cannot realize the full potential of DIF-source audits without including in-depth unreported income probes during the audits.

The Growth of the Deferred Adverse Tax Consequences (DATC) and Alternative Strategies for Tax Administration (ASTA) Programs

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This article chronicles the origin and growth of projects under the Deferred Adverse Tax Consequences (DATC) Program and the Alternative Strategies for Tax Administration (ASTA) Program banners. The DATC and ASTA Programs make extensive use of computer technology to establish and maintain long-term tracking systems and to match various data files to identify a wide variety of specific tax adjustment issues generally amenable to low cost correspondence correction techniques.

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Background of the DATC Program

The DATC Program was initiated by IRS Commissioner Don Alexander on February 5, 1976, when he wrote a memo to the Assistant Commissioners asking for a review of the adequacy of IRS procedures and programs for accumulating and using information to monitor and insure compliance with provisions of the Code that defer taxes subject to recapture if specified events take place in the future. Examples given in the memo were recaptures of accelerated depreciation deductions and of partner deductions in excess of their cost/investment in leveraged tax shelter partnerships.

After a series of meetings, the Assistant Commissioners for Examination; Accounts, Collection and Taxpayer Services; and Planning and Research, advised the Commissioner "that present procedures and programs in this area are not adequate ... and requires an in-depth study." A task force was convened to review every page of the Code to identify all DATC type provisions. The task force identified about 100 Code provisions that had DATC potential. A permanent DATC Study Group was established to handle the various Code provisions identified. It was decided that the partnership tax shelter area would be the first addressed. The DATC Study Group prepared a report indicating that it would be feasible to monitor this provision if Form 1065 (U.S. Partnership Return of Income) and the related Schedule K-1 (Partner's Share of Income, Credits, Deductions, etc.) were expanded and this new data was transcribed and tracked by the IRS. This report was sent to the Commissioner on July 22, 1976. On July 30, the Commissioner approved implementation of a project to revise tax forms, return processing and transcription, and computer data input and retention programs, as needed, to develop and initiate a computerized DATC tracking system for excessive deductions by partners in tax shelter partnerships.

Growth of DATC Projects

The next major impetus to the DATC Program occurred on February 13, 1978, when IRS Commissioner Jerome Kurtz selected 19 more Code provisions from the task force list and asked that these efforts be initiated as quickly as possible. The DATC Control Group of affected Division Directors decided that five of these could be started as research projects at once and asked the Study Group to develop a project prospectus for each of the five. (To ensure that the proper attention and priority was given to these and all future DATC projects, a DATC Implementation Group was established in Computer Services in 1978 and they continue to work primarily on DATC and ASTA projects.) All five prospectuses were approved in mid-1978. Since then, 19 more DATC projects have been approved and undertaken as the result of Commissioner or other IRS executive requests, GAO suggestions or newly enacted legislation. These DATC projects have resulted in Congress enacting three new information reporting provisions and in eleven operational programs as indicated in the following list of DATC projects initiated to date:

	DATC Project	Result or Status
1.	Partnership Tax Shelter K-1 Project	Operational Program Until Replaced By New Partnership Tax Shelter Return Selection System
2.	Recapture of New Residence Purchase Credit	Operational Program Implemented and Completed
3.	State Income Tax Refund--Underreporters	Legislation Enacted, Now Part of IRP Operational Program
4.	Activities Not Engaged in for Profit	Legislation Proposed
5.	Stock Basis Reduced by Non-taxable Distributions	Project Completed, Monitoring System Not Implemented Due to Cost
6.	Taxable Gain on Sale of Residence	Operational Program Being Implemented
7.	Stock Sales Monitored by Dividend Cessation	Legislation Enacted, Now Part of IRP Operational Program
8.	State Income Tax Refund--Overreported	Operational Program
9.	Changes in Accounting Methods	Project Completed, Compliance Adequate So No Further Action Recommended

10.	Full Absorption Inventory Costing	Completed, Results Referred to Chief Counsel to Use in Developing Legislative Proposals (Revised by Uniform Capitalization Rule Enacted in TRA 1986)
11.	Deferred Gains on Installment Sales	Project Terminated Because of Change in Law
12.	Real Estate Partnership Tax Shelters	Project Terminated Because of Change in Law
13.	Recapture of Accelerated/ Accrued Deductions on HUD Involved Housing	Legislation Enacted, Now Operational Program
14.	Monitoring Tax Consequences of Chapter 11 Bankruptcies	Project Transferred to Examination for Implementation as Part of AES (Automated Examination System)
15.	Residential Energy Credit Carry-overs and Limitations	Operational Program Implemented and Completed
16.	Estate IRS 2032A Valuation Elections	Operational Program
17.	Monitoring Lifetime Exclusion of Gain on Sale of Residence (LTEX)	Operational Program
18.	Accelerated Depreciation/Credits on Historic Structures	Operational Program
19.	Qualified All-Saver Interest Certificates	Transferred to Returns Processing
20.	Payments-In-Kind (PIK)	Project Completed, Compliance Adequate So No Further Action Recommended
21.	Taxable Annuities and Pensions Study (TAPS)	Data Analysis Underway
22.	Recapture of Accelerated Depreciation and Investment Credits and Cars (RADICC)	Project Terminated Due to Legislative Change
23.	Kick-out Increases in Dependents Study (KIDS)	Project Completed, Several Operational Program Alternatives Suggested

24.	Recapture Excessive Alimony Payments (REAP)	Operational Program Being Implemented
25.	Pension and Annuity Nonfilers (PAN)	Terminated, Operational Program Instituted

Evolution of DATC Program

The DATC program has evolved into a continuing series of projects. By definition, these projects focus on Code provisions which permit deferral of taxes, but which have various limitations or recapture requirements if certain subsequent actions occur. Each newly enacted tax bill is reviewed for provisions that would require a multi-year tracking system to monitor compliance with these deferral provisions. For some provisions, monitoring systems can be designed and implemented without prior studies. This would be the case if existing data indicated: 1) that a computer-based tracking system could be readily installed, and 2) that a large potential tax loss would result even if compliance with the provision were relatively high.

Benefits of DATC

The implemented DATC programs have usually been very productive--with yield to cost ratios generally at least 20 to 1 and sometimes as high as 30 to 1 or more. For example, in fiscal years 1981, 1982, and 1983, energy tax credits were decreased on 157,000 returns producing $28.3 million in additional revenue at a total cost of $1.06 million (yield to cost ratio 26.7 to 1). One year recovery programs, such as the Recapture of New Residence Purchase Credit Project, however, are not always as efficient. A total of 8,648 returns were adjusted for $9.1 million additional revenue at a cost of $0.9 million (yield to cost ratio about 10 to 1). The State Income Tax Underreporter Program for 1982 produced $2.7 million in increased tax on 19,000 returns at a cost $90,000 (yield to cost ratio 30 to 1). This program merged into the Information Returns Program (IRP) when information reporting legislation was enacted. On the other side of the coin, the State Income Tax Refund Overreported Program continues as a stand-alone operational program which issues refunds to taxpayers. In fiscal year 1987, $1.7 million was refunded to 22,396 taxpayers at a cost of $45,470.

Future DATC Projects

Each tax bill enacted by Congress is carefully reviewed for any DATC-type provisions that might require a multi-year tracking system to monitor compliance. As a result of the Tax Reform Act of 1986, several new DATC projects are being designed. One project will monitor the 15 year compliance period for the new low-income housing tax credits. Another project will aggregate and track nondeductible IRA contributions by individual taxpayers until there are IRA withdrawals from their accounts--which could mean tracking IRA bases in some cases for 50 years or longer. A third system is being considered to track the life expectancy of retirees to determine when their pensions become fully taxable.

Background of the ASTA Program

The Alternative Strategies for Tax Administration (ASTA) Program was initiated in 1981, as suggested by the Office of Management and Budget, to increase tax return corrections without labor intensive examinations. The ASTA program makes use of the DATC methodology (i.e., computer technology and correspondence with taxpayers) to monitor single year tax issues. ASTA has been established as a continuing, multi-functional IRS effort to research and develop non-labor intensive, low-cost computerized alternatives to conventional enforcement methods and compliance programs. These efforts use existing IRS computer files and computer data obtained from other Federal and state agencies.

Growth of ASTA Projects

In October 1981, a request was sent to Computer Services to start work on the first four ASTA projects. Two of these projects use data from the Social Security Administration's date of birth file. One project (Improper Zero Bracket Amount Deductions or IZBAD) identifies minors incorrectly taking the zero bracket amount deduction to offset unearned income. The other project (Monitoring Age 65 Exemptions) identifies taxpayers improperly claiming the age 65 exemption. A third project identified single, married-separate or head of household taxpayers who had previously filed married-joint returns and were now both taking the same dependency exemptions. The fourth project verified alimony deductions on the payer's return and then checked the recipient's return to see if alimony income was correctly reported.

To date a total of 31 ASTA projects have been initiated as a result of IRS executive requests, employee suggestions, GAO requests or newly enacted legislation. These projects have in turn resulted in the enactment of four legislative provisions and in twelve operational programs being initiated or expanded to date, as indicated in the following list of ASTA projects:

	ASTA Project	Result or Status
1.	Duplication of Exemptions for Dependents (DED)	Project Completed, Program Being Implemented Now That Law Requires SSNs of Dependents on Tax Returns
2.	Alimony Not Reported as Income (ANRI)	Legislation Enacted, Now Operational Program
3.	Improper Zero Bracket Amount Deductions (IZBAD)	Operational Program
4.	Monitoring Age 65 Exemptions	Operational Program Being Implemented

5.	Taxation of Uncollectable Federal Loans (TUFL)	Legislation Enacted, Now Operational Program
6.	Recovery of Erroneously Taken IRAs (RETIRA)	Operational Program Implemented and Completed
7.	Non-cash Unsupported Contributions Study (NUCS)	Legislation Enacted, Now Operational Program
8.	Reduction of Residence Basis by Energy Credits Allowed (RRBECA)	Project Completed, Compliance Adequate So No Further Action Recommended
9.	Government Grant Offsets of Residential Energy Credits (GGOREC)	Project Completed, Compliance Adequate So No Further Action Recommended
10.	Over Age 55 Check for Lifetime Exclusion (LTEX) of Gain on Sale of Residence	Completed, Integrated into LTEX Tracking Program
11.	Perfecting the Reporting of Interest on Seller Mortgages (PRISM)	Project Completed, Tax Forms Changed
12.	Verification of Two Earner Deductions (VOTED)	Project Completed, Compliance Adequate So No Further Action Recommended
13.	IRA Sample Study (IRASS)	Completed, Now Part of IRP Operational Program
14.	Professional's Returns with Excessive Pension Plan Study (PREPPS)	Data Transferred to Employee Plans for Analysis
15.	Discounts on Prepaid Mortgages (DOPM)	Project Completed, Law Changed Tax-ability of these Discounts
16.	Compliance Aspects of Married Filing Separate (CAMFS)	Project Completed, No New Compliance Problems Found
17.	Unreported Real Estate Transactions (URET)	Legislation Enacted, Operational Program Being Implemented

18.	Monitoring Accrued Interest Deduction Study (MAIDS)	Project Completed, Criteria Did Not Identify Desired Cases
19.	At Risk Limitation on Deductible Losses	Operational Program
20.	Unallowable Dependents Based on Delinquent Child Support	Data Analysis Underway
21.	Vacation Home Rental Losses Study	Data Analysis Underway
22.	Farm Income from Federal Crop Insurance and Loans (FIFCIL)	Completed, Now Part of IRP Operational Program
23.	Certification Required from Individual's Physician for Permanent Disability (CRIPPD)	Data Analysis Underway
24.	Monitoring Individual Noncash Contributions (MINC)	Operational Program
25.	Noncustodial Parents Alleging Pre-1985 Agreements (NoPAPA)	Project Underway
26.	Determining Erroneous Refunds on Taxable Social Security (DERTSS)	Study Report in Clearance
27.	Work of Arts Contributions Study (WACS)	Completed, Now Operational Program
28.	Detecting Erroneous Exemptions Refunds (DEER) Project - (Cases where IRS incorrectly gave age 65 taxpayers additional exemptions for children)	Completed, Data Referred to Returns Processing for Analysis
29.	HUD Mortgage Interest Subsidies (HUD-MIS)	Data Analysis Underway
30.	Determining Exemptions Attributable to Decedents (DEAD)	Project Underway
31.	Mortgage Interest Credit Certificates (MICC)	Project Underway

Future ASTA Projects

Several new ASTA projects are being designed as a result of the Tax Reform Act of 1986. These projects include: 1) Personal Exemptions Taken Erroneously by Minors; 2) Improper Standard Deductions on Unearned Income of Dependents; 3) Kid's Interest and Dividends Taxed

At Parent's Tax Rate; 4) Study the Effect of Exemption Taxpayer Identification Numbers on Compliance; 5) Effectiveness of Computer Matching Dependent SSNs to Available Income, Benefit, etc. Files; and 6) Ascertain Scholarship Underreporting to Develop Enforcement Needs and Taxation Strategy (A STUDENTS).

Benefits of ASTA Programs

The operational ASTA programs have also proved to be a very efficient use of resources. For example, the first year of the operational IZBAD program resulted in 29,304 cases being closed by service center Returns Processing personnel with tax increases of $6.67 million at a cost of $217,718 (yield to cost ratio 30.6 to 1). The Recovery of Erroneously Taken IRA's (RETIRA) program was completed in 1984 with the recovery of $48.4 million in tax on 331,747 returns by Returns Processing and $28.2 million on 78,718 returns by Examination at a combined cost of $2.5 million (overall yield to cost ratio 30.7 to 1). The Monitoring Noncash Individual Contributions program in fiscal year 1987 resulted in Returns Processing increasing tax by $8.24 million on 26,168 tax year 1985 returns at a cost of $317,896 (yield to cost ratio 26 to 1).

Conclusion

While the number of DATC and ASTA projects has grown each year, the actual number of returns verified or corrected in stand-alone DATC or ASTA programs peaked in 1984 at almost one million with additional tax assessments of $75 million and refunds of $7 million. The programs were reduced and deferred in fiscal years 1985 and 1986 due to return processing problems and budget constraints. In fiscal 1987, when work on the programs resumed, $22.6 million in additional tax was assessed by Returns Processing personnel on 118,000 returns in four stand-alone programs for which data are available and $1.7 million was refunded on 22,396 State Income Tax Refund Overreported cases. Another $6.2 million in tax increases was assessed by Examination on some 26,000 returns in these programs. In addition to these stand-alone DATC/ASTA programs, several of the DATC/ASTA test projects have been implemented as part of the Information Returns Program (IRP). For example, the State Income Tax Refund Underreporter segment of IRP issued 494,000 proposed adjustments in fiscal year 1987 and closed 375,000 cases with additional tax assessments of $144 million. Fiscal year 1988 plans call for the review and verification or correction of over one million returns as part of the Returns Processing operational stand-alone DATC/ASTA programs.

Paid Preparers' Rating of the IRS: Select Items from the 1986 Survey of Tax Practitioners

by
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(Planning, Finance and Research)

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Paid tax preparers' responses to items included on the 1986 Survey of Tax Practitioners, which ask them to rate IRS, are presented. Results show returns are being prepared by paid preparers who hold favorable attitudes towards the IRS and feel the Private Letter Rulings Program and Problem Resolution Office are doing a good job. Returns are also being prepared by preparers who rate IRS personnel's overall performance positively. When preparers were asked to evaluate the IRS toll free system, results showed that returns are being prepared by preparers who use this system and rate the system's performance as being poor.

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Introduction

In May through July of 1986, the IRS sponsored a nationwide survey of tax preparers. The purpose of this survey was to get a better understanding of the role tax preparers play in preparing returns, advising clients on many aspects of business and family financial planning, and representing taxpayers before the IRS on appeals and in litigations involving examination deficiencies. This study also measured the potential impact of preparers on tax administration through estimating the number of returns prepared by preparers with certain attitudes, opinions and reported behaviors.

Face to face interviews were conducted with 1,772 tax preparers which included 688 CPAs, 202 enrolled agents, 88 lawyers, 264 public accountants, and 530 unenrolled agents. A 58 item questionnaire was used to elicit preparers perceptions and attitudes on several IRS programs, different types of penalties, tax shelters and communicating with the IRS. This paper looks at one area covered in the survey--how preparers rate the IRS. Specifically, it presents preparers' attitudes towards the IRS and their rating of the toll free telephone system, Problem Resolution Office, Private Letter Ruling Program, and IRS personnel with whom they have interacted.

Study Design

The Survey of Tax Practitioners measures the number of returns prepared by preparers with certain attitudes, opinions and reported behaviors. Tax year 1984 Form 1040EZ, 1040A, and 1040 returns, which

were signed by paid preparers, were used as the sampling frame. Form 1040-series returns were systematically selected from the 1984 IRS Preparer Inventory File and the preparer of the selected returns contacted. If these preparers had also signed returns in 1985 they were interviewed. (This stipulation was included because many survey questions involved recall.) The interviewed preparers' responses were then weighted up to returns prepared by paid preparers who signed returns in both 1984 and 1985, and not the population of preparers. Consequently, preparers' responses to questionnaire items are presented by the number of returns prepared by preparers who responded in a certain way.

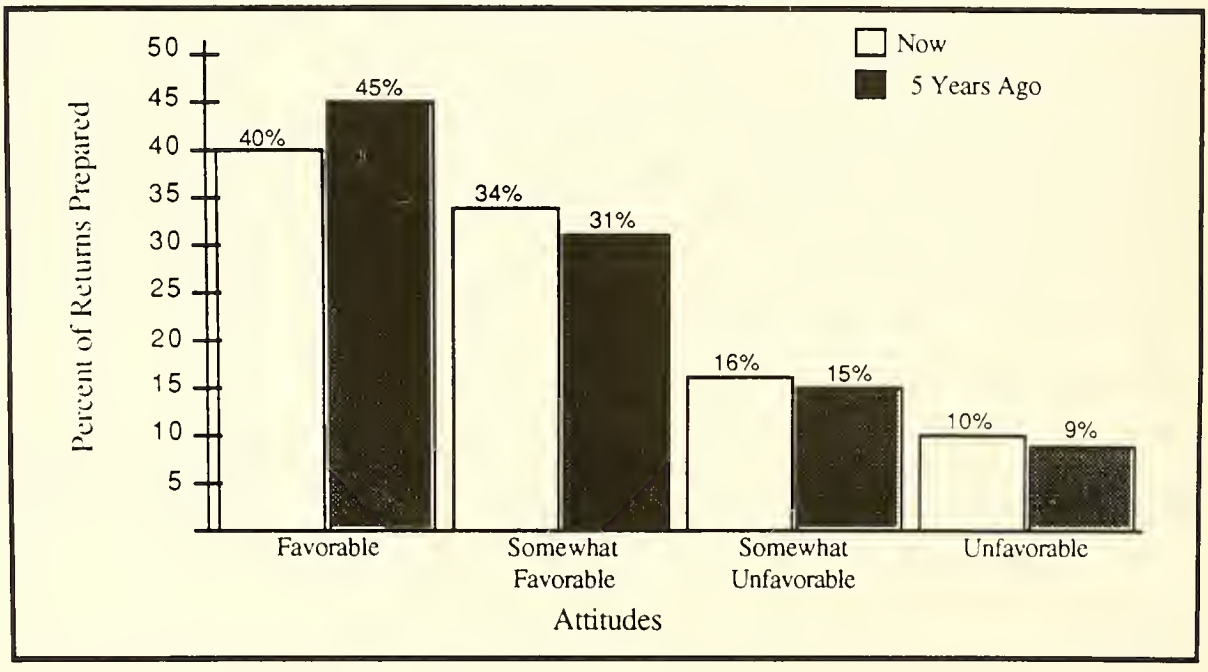
It is important to emphasize that the figures given in this paper represent the proportion of returns prepared by preparers who hold a particular attitude. The number of preparers responding varies from item to item. As a result, the number of returns prepared also changes; these numbers are presented in each chart or figure.

The design of this research project was very complex, and is not presented in detail here. The reader is referred to the more comprehensive explanation included in the **Survey of Tax Practitioners and Advisers: Summary of Results by Occupation**, Internal Revenue Service, June, 1987.

Attitudes Towards the IRS

To get a measure of paid preparers' general attitudes towards the IRS, they were asked "How favorable or unfavorable is your attitude towards the IRS?" and "How favorable or unfavorable was it say 5 years ago?" Their responses to these two items are displayed in Figure 1.

Figure 1. Returns Prepared, by Preparers' Attitude Toward the IRS NOW and 5 YEARS AGO (N=20.8 million returns)



Forty percent of the returns represented by the preparers surveyed were prepared by preparers who held favorable sentiments towards the IRS at the time of the survey. Forty-five percent of these returns were prepared by preparers who stated they had favorable attitudes towards the IRS five years ago.

The percent of returns prepared by preparers with "somewhat unfavorable" and "unfavorable" attitudes are similar for both now and 5 years ago. The figures are 9 and 10 percent for attitudes now and 5 years ago, respectively. Sixteen percent were prepared by those who presently hold somewhat unfavorable attitudes and fifteen percent by those who stated they felt somewhat unfavorable toward the IRS 5 years ago.

Rating of Available IRS Information

Preparers use information from many sources to aid them in completing returns, and representing and advising clients. A list of sources of tax information was included on the questionnaire and preparers were asked to indicate how useful they found each source to be. Table 1 presents a percent distribution of the number of returns prepared by preparers' ratings of usefulness of available IRS sources of tax information.

Table 1. Percent of Returns Prepared, by Preparers' Rating of the Usefulness of IRS Information

Source of Information	Rating						
	Very Useful	Somewhat Useful	Somewhat Not Useful	Not Useful	D.K./[1] N.S.	Total %	No. of Returns Prepared (in 000's)
Bulletins and announcements	51	26	15	7	0	100	15,301
Manual	56	24	13	6	0	100	8,433
Private letter rulings	45	22	26	7	0	100	7,639
District Director's newsletter	43	25	18	14	0	100	10,711
Publication 17	65	19	8	7	1	100	13,762

[1]Don't know/Not stated

The preparers who rated the usefulness of **Publication 17 (Your Federal Income Tax)** were representative of preparers who prepared 13.8 million returns. Sixty-five percent of these returns were prepared by preparers who felt this publication was "very useful" and nineteen percent who found it "somewhat useful." Of all IRS information sources evaluated, a higher percentage of returns were prepared by preparers who rate **Publication 17** "very useful." Also, there was a statistically significant difference between the average "usefulness" rating that CPAs and unenrolled preparers gave to **Publication 17.** Using a six-point rating scale (i.e., 1=not useful and 6=extremely useful), unenrolled preparers tend to feel that it is more useful (mean rating=5.2) than CPAs (mean rating=4.1) or any other category of preparers. Average usefulness ratings did not differ significantly for the different types of paid preparers for any other information source.

A majority of returns were prepared by preparers who felt IRS bulletins and announcements (51 percent) and manual (56 percent) are "very useful." Also, more than 2 in 5 returns were prepared by preparers who find private letter rulings (45 percent), and District Directors' newsletters (43 percent) "very useful."

IRS Toll Free System

Although the IRS toll free system was set up as a service to taxpayers, this study found that preparers are also using it. Specifically, 16.4 million returns were prepared by preparers who had called the IRS toll free system at some point.

Figure 2 presents the percent of returns prepared, by preparers' overall rating of the toll free system while Table 2 gives ratings for specific characteristics of the system. Most returns were prepared by preparers who feel that, overall, the toll free system is "poor" (39

Figure 2. Returns Prepared, by Preparers' Overall Rating of the IRS Toll Free System (N=16.4 million)

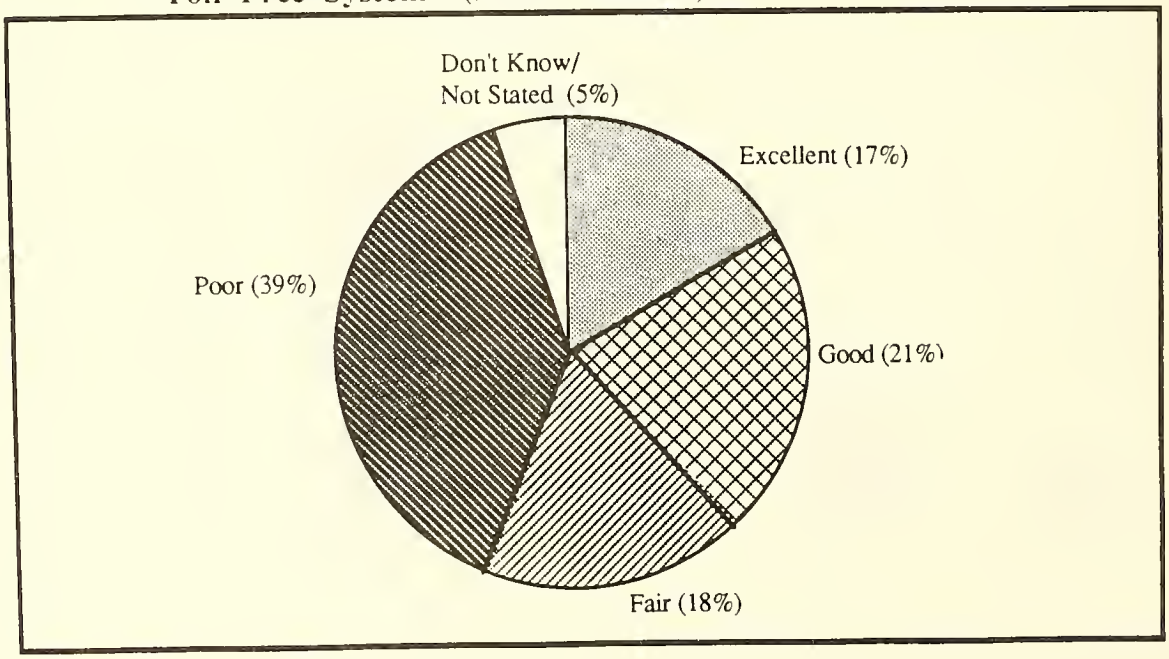


Table 2. Percent of Returns Prepared, by Preparers' Rating of Characteristics of the Toll Free System (N=16.4 million returns)

Characteristic	Rating					
	Excellent	Good	Fair	Poor	Don't Know/ Not Stated	Total %
Ease of getting through to someone	6	12	14	68	1	100
Timeliness of response to questions	22	23	22	34	0	100
Correctness of technical information given	24	24	19	31	2	100
Adequacy of information given	21	27	22	29	1	100
Cooperation of IRS personnel	46	26	13	14	1	100
Ability of IRS personnel to understand the problem	21	27	24	28	1	100
Willingness to act in the taxpayer's best interest	26	22	20	32	1	100
Accounting skills	13	29	23	30	5	100
Understanding the law	22	27	24	25	2	100
Consistency in responses from one IRS employee to another	11	18	23	45	3	100
Ease of finding the right person to talk to	10	14	17	58	1	100
Courtesy	56	24	11	8	1	100

percent) and "fair" (18 percent). One-fifth of the returns were prepared by preparers who feel the system is "good" (21 percent) and 17 percent by those who feel it is "excellent."

The information presented in Table 2 gives insight into why approximately 40 percent of returns are prepared by preparers who rate the toll free system's performance negatively. Sixty-eight percent of returns are prepared by preparers who have problems getting through to someone on the toll free system. Also, fifty-eight percent are prepared by preparers who have problems finding the right person to talk to and 45 percent by those who have problems in getting consistent responses from one IRS employee to another.

If the "excellent" and "good" categories in Table 2 are combined and called positive, and the same is done for "fair" and "poor" which would be considered negative, approximately fifty percent of returns are prepared by those with positive ratings and the other half by those with negative sentiments for several of the characteristics. These characteristics include correctness of technical information given, adequacy of information given, ability of IRS personnel to understand the problem, willingness to act in taxpayers' best interest and understanding the law.

Fifty-three percent of returns were prepared by preparers who rated the toll free system personnel's accounting skills negatively, while 42 percent were prepared by those who rated it positively. Statistically significant differences in mean ratings were found for CPAs and unenrolled preparers' evaluation of this item. Again, using a six-point rating scale (i.e., 1=poor; and 6=excellent), CPAs indicated they feel that toll free system employees' accounting skills were poor (mean rating=2.4), while unenrolled preparers rate it significantly better (mean rating=3.3).

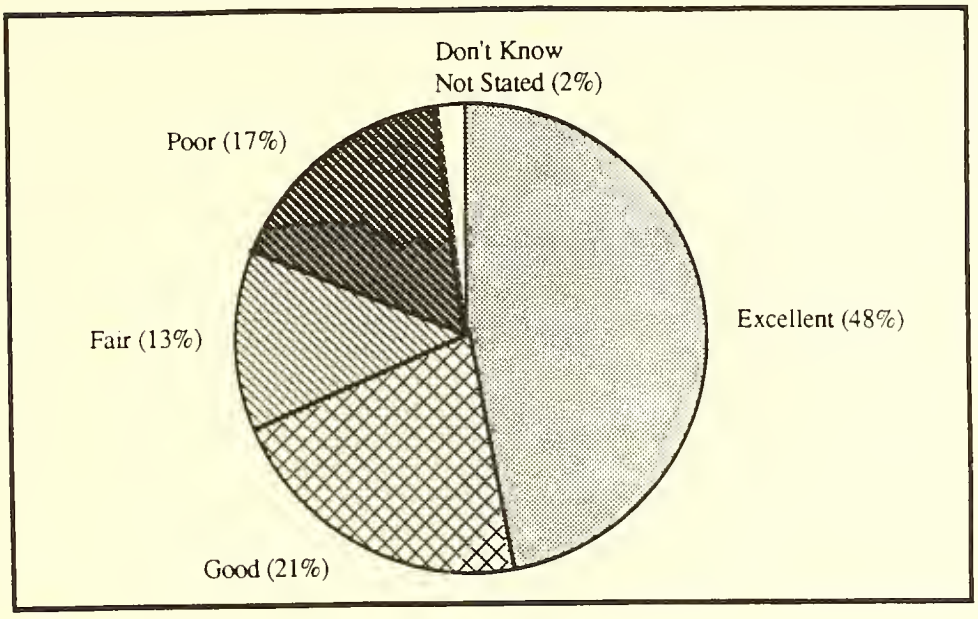
Paid preparers do, however, feel IRS toll free system employees are courteous. A majority (56 percent) of returns are prepared by preparers who rate employees "excellent" on courtesy. Additionally, 46 percent were prepared by preparers who feel employees working the toll free system are very cooperative.

The problems preparers encountered when using the toll free system are the same as those experienced by taxpayers seeking assistance. Since this survey was conducted, IRS has taken steps to correct these problems. For instance, for the 1988 filing season more telephone assistors have been hired, more phone lines installed, and a system implemented to monitor the "quality" of answers given by the assistors.

Private Letter Ruling Program

It was mentioned above (in the rating of available IRS information) that 45 percent of returns are prepared by preparers who find private letter rulings "very useful" as sources of tax information. Figure 3 shows the percent of returns prepared by, preparers' rating of how helpful overall they see the Private Letter Ruling Program.

Figure 3. Returns Prepared, by Preparers' Overall "Helpfulness" Rating of the Private Letter Ruling Program. (N=3.1 million returns)



Approximately 3 million returns were prepared by preparers who have requested a private letter ruling. Of these, 48 percent were prepared by preparers who gave the program an overall "excellent" rating on being helpful, and 21 percent who feel it is "good." Thirty percent were prepared by those who rate it "fair" (13 percent) or "poor" (17 percent).

Rating of IRS Personnel

To gauge how well preparers feel IRS personnel are performing in various functional areas, they were asked to rate IRS Collection personnel on their ability to assist taxpayers (Figure 4), and to give an overall rating to the performance of the last field agent, office auditor and appeals officer with whom they dealt (Figure 5).

A majority (56 percent) of returns are prepared by preparers who rate IRS Collection personnel "excellent" (24 percent) or "good" (32 percent) on its ability to assist taxpayers in resolving account problems. Over 40 percent of paid preparer returns were prepared by those who rate it "poor" (23 percent) or "fair" (21 percent).

When specific job categories of IRS employees are examined, the figures show that preparers of most returns felt that the overall performance of the last field agent and appeals officer they interacted with was "excellent." For example, of returns prepared by preparers who have ever dealt with an appeals officer, 72 percent were prepared by ones who rate the officer "excellent." The figure for field agents

Figure 4. Returns Prepared, by Preparers' Rating of IRS Collection Personnel's Ability to Assist Taxpayers in Resolving Account Problems (N=12.2 million returns)

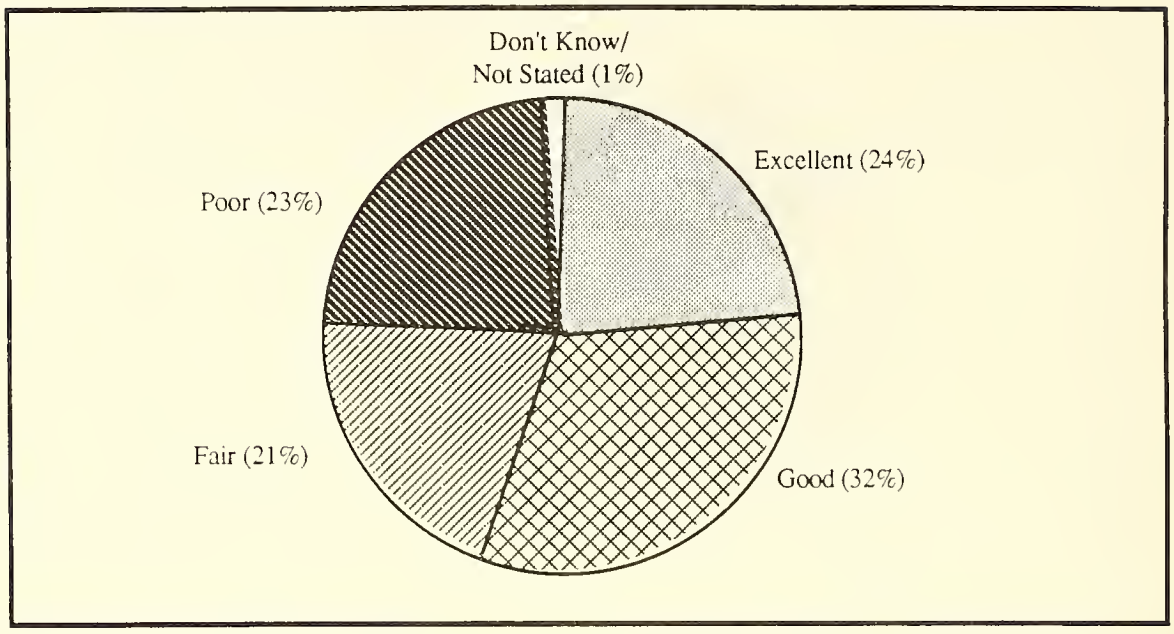
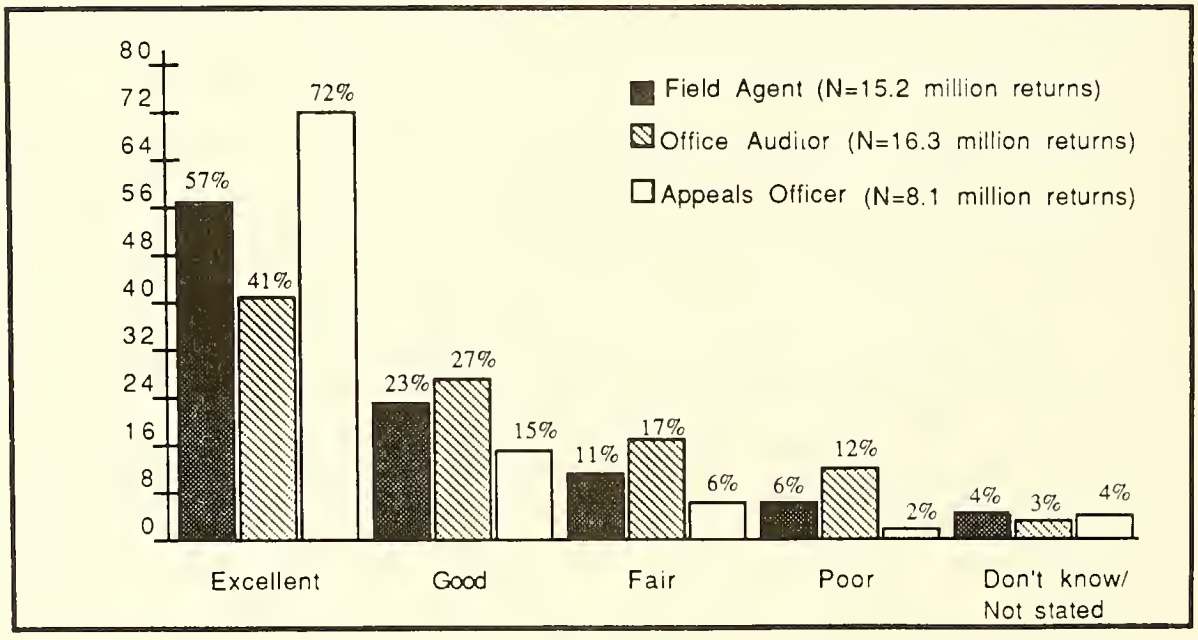


Figure 5. Returns Prepared, by Preparers' Overall Rating of the Last Field Agent, Officer Auditor and Appeals Officer With Whom They last Dealt



was 57 percent "excellent" and 23 percent "good." Of the returns prepared by preparers who have had contact with an office auditor, 41 percent were prepared by those who rated the office auditor "excellent;" 27 percent were prepared by those who rated them "good."

Table 3 presents the average ratings preparers gave the field agent, office auditor and appeals officer on certain characteristics. The average ratings of these three categories of IRS employees follow the same pattern as the overall ratings discussed above. Each category of employees received at least a rating of about 4.0 (out of a possible high of 6.0).

Almost twice as many returns were prepared by preparers who have had contact with office auditors (16.3 million) and field agents (15.2 million) compared to appeals officers (8.1 million). However, preparers rated appeals officers higher than field agents and office auditors on all the listed characteristics. Appeals officers received their highest rating on understanding the law (5.2)--while ratings for understanding the issues, courtesy, and experience tied for second highest (5.1). Field agents and office auditors received their highest ratings on courtesy 4.9 and 4.7, respectively. The second and third highest ratings for field agents were for understanding the law and thoroughness, respectively. Office auditors received their second highest rating for ease of contacting; thoroughness and effort to expedite the audit given the issue tied for third.

Problem Resolution Office

Taxpayers and paid preparers go to the Problem Resolution Office as a place of last resort when they have exhausted all other channels in attempting to solve a problem. Thus, it is important that this office is effective in addressing taxpayer concerns. Figure 6 shows the percent of returns prepared, by the preparers' overall rating of how helpful this office is in helping them to resolve problems.

Figure 6. Returns Prepared, by Preparers' Overall Rating of the Problem Resolution Office (N=11.7 million returns)

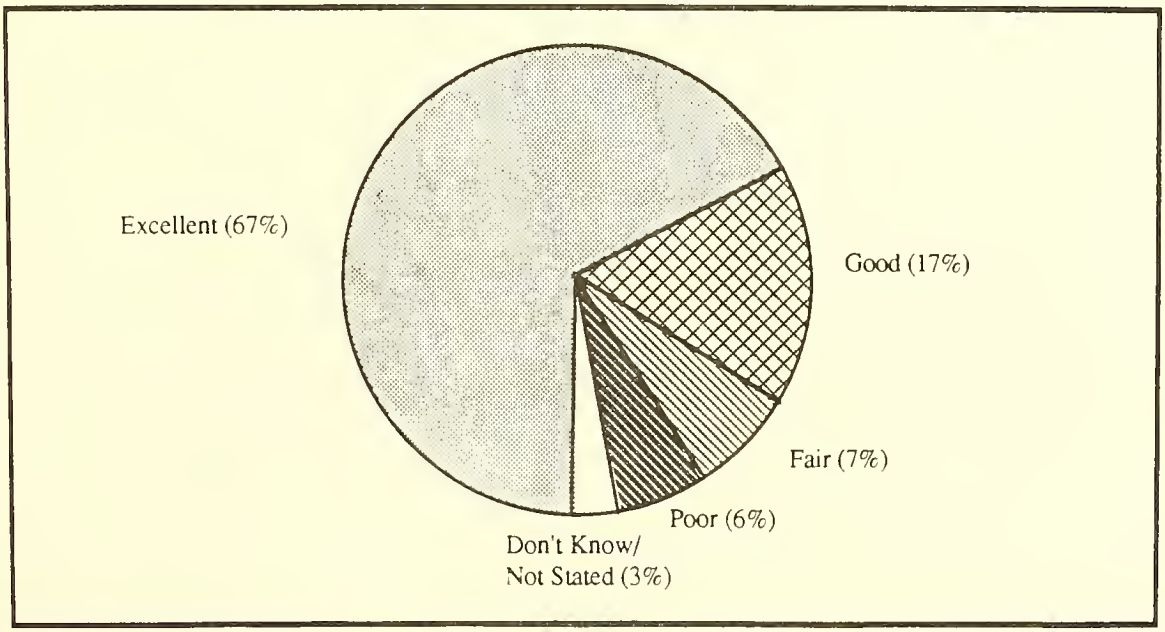


Table 3. Preparers' Rating of the Performance of the Field Agent, Office Auditor and Appeals Officer with Whom They Last Dealt

Area Rated	Mean Rating[1]		
	Field Agent	Office Auditor	Appeals Officer
No. of returns prepared (in 000's)	15,241	16,260	8,075
Effort to expedite the audit given the issue	4.4	4.3	4.9
Courtesy	4.9	4.7	5.1
Overall competence	4.5	4.2	5.0
Understanding the issues	4.4	4.1	5.1
Understanding the law	4.6	4.2	5.2
Accounting skills	4.3	3.9	4.7
Experience	4.3	4.0	5.1
Ability to avoid irrelevant issues	4.3	4.0	5.0
Reasonable requests for documentation	4.5	4.2	5.0
Overall effectiveness	4.5	4.1	5.0
Thoroughness	4.6	4.3	4.9
Ease of contacting	4.5	4.4	4.6
Ability to identify relevant issues	4.4	4.1	5.0
Impartiality	4.3	4.0	4.6

[1]Six point scale used with 1=very negative and 6=very positive

Overall, the office is doing a good job as reflected by the large percent of returns prepared by preparers who have used the office and rate it "excellent" (67 percent) and "good" (17 percent). Only 13 percent of returns prepared by those who have used this office felt it did a "fair" (7 percent) or "poor" (6 percent) job in resolving their problems.

Table 4 contains the percent of returns prepared by preparers' rating of characteristics of the Problem Resolution Office. Again, the office seems to be having a positive impact on preparers who use it and prepare a large portion of returns. Over 60 percent of the returns prepared by preparers who use this office are prepared by ones who rate it "excellent" in being impartial (68 percent); effectively resolving problems (65 percent); and understanding problems (64 percent). Additionally, 54 and 49 percent of these returns are prepared by those who feel that the Problem Resolution Office's extent of decision-making latitude and response time are "excellent," respectively.

Table 4 Percent Distribution of Returns Prepared, by Preparers' Rating of Characteristics of the Problem Resolution Office (N=11.7 million returns)

	Rating					
Characteristic	Excellent	Good	Fair	Poor	Don't Know/ Not Stated	Total %
Being impartial	68	17	6	4	4	100
Effectiveness in resolving problems	65	16	6	9	3	100
Extent of decision-making latitude	54	21	11	8	6	100
Response time	49	25	12	11	3	100
Ability to understand the problem	64	20	7	6	3	100

Summary

This study showed that, generally, returns are being prepared by preparers who rate the IRS' overall performance favorably and find **Publication 17** to be the most useful source of tax information that the IRS provides. Of the returns prepared by paid preparers who have used the toll free system, a majority rated the system's performance "poor"

or "fair." The poor performance rating was given because preparers couldn't get through--and when they did get through they couldn't find the right person to talk to or get consistent answers from one IRS employee to another. While feeling that the service they received was poor, the preparers of most returns felt that toll free system employees are courteous and cooperative. The problems preparers are encountering when contacting the toll free system are the same as those experienced by taxpayers and IRS has taken steps to correct them.

The majority of returns are also prepared by preparers who feel that IRS Collection personnel are doing a good job in assisting taxpayers. Also, preparers who have interacted with field agents, office auditors and appeals officers tend to rate their overall performance "good" (i.e., the majority of returns prepared by preparers who have interacted with IRS field agents, office auditors and appeals officers were prepared by those who rated them positively).

Two programs--Problem Resolution and Private Letter Ruling--were also evaluated by preparers. The majority of returns prepared by preparers who used these programs were prepared by those who rated their performance good.

SECTION III

Research Abstracts

Planning, Finance and Research

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Bates, Nancy

"December Roper Survey," December 1987. Compliance Measurement Group PFR:R

Taxpayer Knowledge Of TRA Provisions Still Low In December of 1987

In December of 1987 the Roper Organization conducted a survey to determine taxpayer awareness of tax law changes brought about by the Tax Reform Act of 1986 (TRA). Many of the survey questions were duplicates of questions asked during the 1987 Taxpayer Opinion Survey conducted in July through August of 1987. The Roper Survey indicated that taxpayer awareness of TRA provisions had not changed significantly since the earlier survey. The majority of taxpayers were still "not sure" whether TRA had caused certain tax aspects to change or remain the same.

The Roper Survey also gathered information on how carefully taxpayers had planned their withholding. These results indicate that approximately 6 taxpayers in 10 either: 1) used the Form W-4 worksheet and instructions to calculate their number of exemptions; 2) arrived at their number of exemptions by simply counting themselves, their spouse, and/or other dependents; or 3) had a tax specialist complete the form for them. Only 3 in 10 made a quick judgment without doing any calculations or left it up to their employer to fill out their Form W-4.

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Bates, Nancy

"Kiddie Tax Survey," December 1987. Compliance Measurement Group PFR:R

As Of December 1987, Many Parents Were Unaware Of Tax Law Changes Requiring Some Dependent Children To File Tax Returns

This mailout survey assessed parents' awareness of changes in the filing requirements of dependent children as a result of the Tax Reform Act of 1986. Survey results showed that, as of December 1987, approximately 43 percent of parents with dependent children required to file returns were **not** aware that their children cannot claim their own exemption if they can be or are claimed on their parent's return. Almost half of the children who met the requirements for filing

Form 8615 (Computation of Tax for Children Under Age 14 Who Have Investment Income of More Than $1,000) had parents who were unaware that the child's tax will now be figured at the parent's tax rate.

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Bates, Nancy

"Mail-Out/Taxpayer Service Survey," December 1987. Compliance Measurement Group PFR:R

Four Out Of Every Ten Taxpayers Say They Would Use Extended Service Hours

This telephone survey was conducted for two purposes: 1) to determine taxpayer preferences for extended Taxpayer Service hours and 2) to gather information on the effectiveness of an IRS flyer sent to approximately 93 million taxpayers in October. Almost four out of every ten taxpayers surveyed indicated they would use extended Taxpayer Service telephone assistance on weekday evenings; one-third said they would call Taxpayer Service on Saturdays. Slightly over one-fourth indicated they would visit their closest IRS office for assistance if walk-in hours were extended to evenings and Saturdays. When asked about the IRS flyer, only three in ten remembered having received **and** read it.

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Bates, Nancy

"1987 Taxpayer Public Opinion Survey," December 1987. Compliance Measurement Group PFR:R

Results From A Recent Taxpayer Opinion Survey Are Instrumental In Assessing The Service's Performance

This taxpayer opinion survey, sponsored by the Service, was conducted in July through August of 1987. Interviews were held with 2,003 respondents selected from a stratified random sample of taxpayers throughout the United States. Data from the survey include public opinions and attitudes on tax reform, tax preparation, voluntary compliance, awareness of IRS programs, and evaluations of IRS services. In an effort to measure trends in public opinion, several questionnaire items were also included from the two prior taxpayer surveys. Among other findings, the results indicated a widespread ignorance of many provisions in the Tax Reform Act of 1986.

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Bates, Nancy

"Survey of Tax Practitioners and Advisors: Summary of Results by Occupation," June 1987. Compliance Measurement Group PFR:R

Results From The First Survey Of Tax Preparers And Advisors Are Available By Occupational Category

In May through July of 1986, the Service sponsored its first comprehensive survey of tax preparers and advisors. A sample of 1040-series returns from the Preparer Inventory File and a separate sample from the Central Authorization File yielded interviews with 1,772 tax preparers and 152 tax advisors, respectively. The survey covers such issues as preparer attitudes toward the IRS, preparer penalties and investigation, preparation of returns, tax shelters, and evaluation of IRS personnel. Results for tax preparers are segregated by five occupational categories: certified public accountants, enrolled agents, lawyers, public accountants, and unenrolled preparers. Results from interviews with tax advisors (those with power of attorney) are presented separately.

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Dumais, James

"Monitoring the Filing of Form W-4," December 1987. Compliance Measurement Group PFR:R

By Mid-September, 80 Percent Of All Wage-Earners Had Filed New Forms W-4

The Tax Reform Act of 1986 required that all employees submit a new Form W-4 by October 1, 1987. Surveys of taxpayers and employers were used to monitor taxpayer compliance with this requirement and to determine the characteristics of those taxpayers who had filed. These surveys included: 1) two surveys of employers selected randomly from the IRS' Form 941 mailing list file (February and May of 1987); 2) Roper Organization interviews of 2,000 taxpayers in February, March, May, July and September of 1987; and 3) the 1987 General Purpose Taxpayer Opinion Survey conducted in July through September of 1987.

In addition to these surveys, detailed data were obtained periodically from the IRS' and the Social Security Administration's payroll systems--as well as from a cooperating employer with 53,000 employees nationwide. The news media were also monitored for relevant information and the results of several surveys conducted by various news agencies were obtained.

These data revealed that taxpayers with the greatest likelihood of being underwithheld--those with higher incomes and married taxpayers with two incomes--had the greatest awareness of the Form W-4 filing requirement. These taxpayers also had higher than average Form W-4 filing rates and generally filed their Forms W-4 earlier than other groups of taxpayers. By mid-September, about 80 percent of all wage-earners had filed new Forms W-4.

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Firestone, Al

"1987 Electronic Filing Pilot of Forms 1041 and 1065 Evaluation Report," September 1987. Technology Research Office PFR:R

Electronic Filing Of Forms 1041 And 1065 Is Economically And Technically Feasible

The feasibility of electronic and magnetic media filing of Form 1041 (U.S. Fiduciary Income Tax Return) and Form 1065 (U.S. Partnership Return of Income) with their related Schedules K-1 was tested in a pilot project during the 1987 filing year. Although the volume of returns filed during this pilot project was low, there is clearly a market for this service--and it is expected to expand over time as software becomes more available, the filing process is streamlined, and the number of forms and schedules that can be filed electronically increases.

Electronic filing of other than individual tax returns is estimated to provide net savings of approximately $278 million over a ten year period after full implementation of the program. As in the case of electronic filing of individual returns, error rates are much lower than for paper returns, and the responses of filers are highly favorable.

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Fratanduono, Rick

"Estimates of Form 8598 Usage," October 1987. Compliance Measurement Group PFR:R

Form 8598 Usage Estimated At 0.5 To 0.9 Million Taxpayers

In July of 1987, homeowners were surveyed in order to develop a profile of those homeowners who had taken out some sort of home mortgage backed debt since August of 1986. Using this data, it was estimated that approximately 7.3 million homeowners took out a home equity loan, home equity line of credit, second home mortgage or refinanced their home mortgage between August 16, 1986 and December 31, 1987.

Preliminary estimates were made of the number of these taxpayers that would be required to complete Form 8598 (Home Mortgage Interest) in order to compute the proportion of their home mortgage interest that is deductible on their tax year 1987 return. Based on these estimates, Form 8598 was revised and another line added to Schedule A of Form 1040. These changes reduced the number of taxpayers who would have been liable to file Form 8598 by several million, thereby reducing taxpayer burden. An estimated 500,000 to 900,000 taxpayers are expected to file the revised Form 8598 in 1988.

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Iocozzia, James

"All Taxpayer Mailout (Pub. 1348) Study," September 1987. Modelling and Special Studies Group PFR:R

Mailout Is Perceived By Taxpayers To Contain Useful Information

This study tested alternative versions of a taxpayer mailout on tax reform to determine which version more clearly conveyed the intended message. Based on the results of a series of nine focus groups, a revised mailout was prepared and three additional focus groups were conducted. The results of all 12 focus groups indicated that no message on the requirement to file a Form W-4 should be included. The mailout was therefore redesigned, and an additional nine focus group sessions were conducted. This final version was perceived by most participants as being something official from the IRS that should be opened. The majority of participants also viewed the mailout as an attempt by the IRS to help taxpayers. The mailout was sent to approximately 93 million taxpayers in October.

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Iocozzia, James

"Conducting Focus Group Interviews on Federal Tax Forms," November 1987. Modelling and Special Studies Group PFR:R

IRS Tests Tax Forms With Public

The Service made a major effort to obtain public input during the development of the 1987 tax forms. Those tax forms commonly filed by individuals were tested in taxpayer focus groups in 23 cities across the country. A total of 64 focus groups with over 550 taxpayers were held to test Forms 1040, 1040A, 1040EZ, Schedule A (of Form 1040),

Form 8606 (IRA Contributions), and Form 8598 (Home Mortgage Interest). The major areas of confusion identified during the testing were clarified by revisions to the forms and/or instructions.

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Iocozzia, James

"Form W-4 Testing Research Project," October 1987. Modelling and Special Studies Group PFR:R

Improved 1988 Form W-4 Developed With Input From Taxpayers

This report presents the results of a project to develop a 1988 version of Form W-4 (Employee's Withholding Allowances Certificate). In the initial phase of the project, focus groups were used to examine taxpayer attitudes and practices related to withholding, and to evaluate responses to the original 1987 Form W-4. Based on the results of this research, and incorporating findings associated with the development of the 1987 Form W-4A, three alternative versions of the 1988 Form W-4 were developed. Testing of these alternative versions resulted in a recommended 1988 Form W-4 which combined features from all of the versions tested.

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Jones, Gerald

"IRS Post-of-Duty Site Location Model," June 1987. Modelling and Special Studies Group PFR:R

Model Will Assist District Offices In Locating Posts-Of-Duty

The purpose of this project was to develop a prototype model to assist district offices in determining the optimal location of their posts-of-duty. With the assistance of the National Bureau of Standards, prototypes have been developed for three districts--Jacksonville, Fort Lauderdale and Pittsburgh. The model uses Individual Master File and Business Master File workload data, by ZIP Code, for both the Examination and Collection functions. Posts-of-duty are located so as to minimize travel (for the IRS and/or the taxpayers), office rental costs, and opening and closing costs. The final solution is used to assign ZIP Codes to the posts-of-duty and to estimate the staff requirements at each site. The workload data is displayed using an extensive,

map-drawing graphics system that allows the user to interactively view workload data, make changes to the model, solve the desired problem and graphically display the solution.

Distribution of the model and FY 1987 workload data to all districts is planned for late 1988.

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Kenadjian, Berdj

"A Report on International Countertrade," September 1987. Compliance Analysis Group PFR:R

The Involvement of U.S. Companies In Countertrade Requires Further Monitoring

"Countertrade" is an arrangement in which the sale of goods is made contingent upon a reciprocal purchase. For example, in order to make a sale abroad, a U.S. company may agree to purchase specified goods from the buyer or the buyer's country. Countertrade agreements have proliferated in recent years primarily because the less developed countries and communist countries rely upon countertrade to conserve scarce currency or credit resources, and to stimulate exports of products which are not competitive on international markets.

In this report, the IRS' International Countertrade Study Group concludes that, currently, there is little evidence of tax abuse related to countertrade. However, since U.S. companies are involved in these transactions, the report recommends that the Service take the following actions: 1) issue two Revenue Rulings on international countertrade, 2) generate a systematic body of knowledge on the tax aspects of this phenomenon, and 3) establish a specific organizational contact point within the National Office where expertise on countertrade can be concentrated.

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Leu, E-Kay

"The SAT Expert System," March 1988. Artificial Intelligence Laboratory PFR:R

An Expert System For Test Data Generation Passes A User Benchmark

The IRS performs system acceptance tests (SAT) on all computer programs to insure that the programs are error-free and meet the design specifications. Since the data preparation for these tests currently is an expensive, time-consuming process, the Artificial Intelligence Laboratory and the Compliance Systems Testing Branch used expert

system technology to develop a system for automating the test data generation process. In early February, the system successfully passed a user benchmark by generating 100 Form 1040-ES test records in 4.5 minutes on a Compaq 286 mini-computer. Under the old manual system, it would have taken approximately one hour to generate this same test data.

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Radack, Bernard

"1986 Electronic Filing Pilot Evaluation Report," May 1987. Technology Research Office PFR:R

Electronic Filing of Individual Income Tax Returns Is Technically And Economically Feasible

Electronic filing of tax returns enables the IRS to automate the labor-intensive, front-end steps of service center processing, as well as the returns storage and retrieval processes. A pilot project on electronic filing of individual tax returns was run in three metropolitan areas during the 1986 filing year. The purpose of the project was to evaluate the benefits of electronic filing, to test the required procedures, and to gauge the receptivity of taxpayers and preparers to this method of filing.

The results revealed that electronic filing of individual tax returns will substantially reduce return error rates and speed up taxpayer refunds by three to five weeks. In addition, the evaluations of electronic filing by taxpayers, tax preparers, and IRS management are highly favorable. Subsequent analysis indicated that electronic filing of individual tax returns will save an estimated $1.12 billion over a ten year period.

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Radack, Bernard

"1987 Electronic Filing Pilot. Direct Deposit/ Electronic Funds Transfer Evaluation Report," September 1987. Technology Research Office PFR:R

Direct Deposit Of Income Tax Refunds And Refund Anticipation Loans Are Workable Concepts

As part of the 1987 Electronic Filing Pilot, taxpayers who filed individual income tax returns electronically could elect to have their refunds deposited into designated financial institutions--rather than receiving paper checks through the mail. This test was run in three metropolitan areas to evaluate the technical feasibility of direct deposits,

and to gauge the receptivity of taxpayers and preparers to refund anticipation loans (i.e., loans to electronic filers by the financial institutions receiving the direct deposits).

The extremely small number of errors in this test indicate that the direct deposit of income tax refunds is a technically feasible idea. The results also show that over 98 percent of the direct deposits were in conjunction with refund anticipation loans.

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Szilagyi, John

"Improper Zero Bracket Amount Deductions," April 1988. Compliance Measurement Group PFR:R

A Program To Correct Improper Zero Bracket Amount Deductions By Dependent Taxpayers With Unearned Income Was Recommended And Implemented

This test was conducted to determine how many student or minor taxpayers, who are claimed as dependents on another tax return, improperly deduct the zero bracket amount (ZBA) from unearned income on their own tax return. Tax year 1982 returns of single taxpayers with no itemized deductions, no "dependent with unearned income" box checked, and various unearned/earned income criteria were selected from the Individual Master File. These returns were matched with Social Security Administration (SSA) date of birth data to select taxpayers under age 23. A sample of several hundred returns were then sent proposed adjustment letters disallowing any ZBA in excess of earned income.

If the results of these test contacts were expanded to the nation there would be about 67,700 proposed adjustments, with some 51,600 tax increases totaling approximately $12 million. These test results indicate that the yield to cost ratio would be 30.3 to 1. Based on the test results, a national program has been implemented beginning with tax year 1984 returns.

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Szilagyi, John

"Monitoring Age 65 Exemptions Test," December 1987. Compliance Measurement Group PFR:R

A Program To Monitor Incorrect Age 65 Exemptions Using SSA Master Beneficiary Records Is Recommended

This test was conducted to determine whether date of birth data from the Social Security Administration (SSA) could be used to identify taxpayers improperly claiming age 65 exemptions, and to estimate the related revenue loss.

The SSA birth dates were matched to tax year 1983 returns with age 65 exemptions. A sample of mismatches were then contacted in two service centers. If the results of these contacts were expanded to the nation as a whole, it is estimated that 62,800 proposed adjustment letters would be issued as a result of this project--resulting in $11.2 million in additional tax. The total cost of a national program would be $504,000, generating a yield to cost ratio of 22.3 to 1. Implementation of a national program beginning with tax year 1985 has been recommended, and is currently being implemented.

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Szilagyi, John

"Roper Surveys Concerning Children Having SSNs and Taxpayer Awareness of the Need for Dependent Children Age 5 or Older to Have SSNs," January 1988. Compliance Measurement Group PFR:R

The Percentage Of Children With SSNs And Taxpayer Awareness Of The New SSN Requirement Increased Dramatically Between May 1987 And January 1988

Three nationwide surveys were conducted by Roper Research Incorporated to determine taxpayer awareness and compliance with the tax reform provision requiring Social Security numbers (SSNs) for children, age 5 and over, claimed as dependents on tax returns. The surveys, of approximately 2,000 adults each, found that the proportion of children with SSNs increased from 67 percent in May of 1987, to 84 percent in October of 1987, to 89 percent in January of 1988. Awareness of the SSN requirement among taxpayers with children increased from 60 percent in May of 1987, to 73 percent in October of 1987, to 82 percent in January of 1988. These increases are at least partially attributable to educational efforts

undertaken by the IRS and the Social Security Administration (SSA). The IRS mailed a pamphlet on tax law changes to all taxpayers in October of 1987 and also highlighted the SSN requirement in the 1987 tax return instructions mailed to taxpayers in December of 1987. The SSA initiated a program, in September of 1987, to distribute SSN information and applications to school children and their parents through the school system.

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Thompson, Thomas

"Current Feasibility of a Return-Free Tax System," October 1987. Compliance Analysis Group PFR:R

A Return-Free Tax System Is Not Currently Feasible

This report, which was required by the Tax Reform Act of 1986, examines the costs and benefits of a system under which some taxpayers (principally Form 1040EZ and 1040A filers) would be relieved of the burden of preparing and filing income tax returns. Instead, the IRS would prepare computer tax returns for these taxpayers, based on income information reports received from employers and other taxpayer income sources. Participating taxpayers would be sent a facsimile return and a refund or a bill, as appropriate.

The interfunctional IRS task group which prepared this report concluded that a return-free tax system is not currently feasible. This is primarily because a large expenditure of resources would be needed to accelerate the processing and correction of information documents in order to generate timely and accurate returns. The IRS will continue, however, to investigate the possibilities of this and other reduced-burden filing options, particularly in the redesign of the tax processing system.

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Utter, Kenneth and Jones, Dennis

"Projecting Weekly Filing of Individual Returns," August 1987. Projections and Forecasting Group PFR:R and Management Support Branch TR:R:M

Weekly Projections Of Individual Returns Will Be Used To Monitor Shifts In Filing Patterns Caused By Tax Reform

Projections of the number of individual returns to be filed each week during the 1988 filing season have been developed. The projections were generated for eight categories of individual returns, and for all ten IRS service centers. This is part of a joint effort by the Returns Processing and Accounting Division and the Research Division to provide data necessary to improve workload scheduling at the service centers.

The weekly projections, which were developed using weighted moving averages of returns filed from 1983 to 1987, reflect a continuing trend by taxpayers to file later in the filing season--even when a refund is expected. These projections will be used in conjunction with annual projections to monitor shifts in filing patterns caused by tax reform.

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Collection

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Beazley, Douglas

"Analysis of Time Required to Close District Office Collection Cases by Grade of Employee," August 1987. Operations Research Section CO:E

The Most Difficult Cases, Those Closed By The Highest Grade Employees, Required About Twice As Much Time As Simpler Cases

In district offices, trained revenue officers in Collection have three skill levels: GS-9, GS-11, and GS-12. The most difficult cases are generally assigned to the higher grade employees. A study was conducted to compare the average time required to close a case by revenue officers at each grade level. The study showed that cases assigned to GS-12 revenue officers required twice as much time to close as cases assigned to GS-9 employees. Cases assigned to GS-11 revenue officers required one and one-half as much time to close as those assigned to GS-9 employees.

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Elsner, Gary

Characteristics of Large Dollar (over $100,000) Delinquent Accounts Assigned to District Offices," May 1987. Operations Research Section CO:E

A Survey Of District Office Cases Showed That Assessments Under IRC 6675 Were The Most Prevalent Reason For Delinquent Accounts

Delinquent accounts are assigned to district offices if written notices and telephone efforts have been unsuccessful. A survey was conducted to determine the characteristics of these most difficult Collection cases. The most prevalent reason for delinquency (36 percent) was assessment under IRC 6675 against corporate officers who failed to pay employment taxes withheld by their corporation. The next most prevalent reason (28 percent) was assessments resulting from audits.

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Friedman, Joel

"Collection of Penalties Asserted by the Tax Court," June 1987. Operations Research Section CO:E

In Cases Where The Tax Court Penalty Was Asserted, About One-Third Of The Additional Tax And Penalty Had Been Collected

When it is determined that a taxpayer has brought a case before the Tax Court merely for the purpose of delaying an additional assessment, a special penalty under IRC 6673 may be asserted. This study tracked amounts collected on these penalty cases, most of which were assessed during calendar year 1985. By the end of 1986, approximately one-third of

the additional tax and penalty had been collected. Although the major portion of the liabilities was still outstanding after approximately one and one-half years, additional collections are expected with time.

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Friedman, Joel

"Processing Bankruptcy Cases," May 1987. Operations Research Section CO:E

Criteria Were Established To Determine Which Bankruptcy Cases Would Be Processed

In order to use staff resources most effectively, Collection does not investigate certain bankruptcy filings and does not file proofs of claim in certain insolvency proceedings. A study was conducted to establish benefit to cost ratio criteria and to determine characteristics for selecting which bankruptcy filings should be investigated. The study allowed us to redirect resources from approximately 145,000 bankruptcy cases with an anticipated benefit to cost ratio of 0.72 to 1, to other programs with an average benefit to cost ratio of 22 to 1.

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Friedman, Joel

"Reminder Notices on IMF Deferred Accounts," September 1987. Operations Research Section CO:E

Sending A Reminder Notice Increased Revenue Collected From Deferred Individual Income Tax Accounts

To conserve resources, Collection defers full processing of certain low dollar, balance due accounts. After a series of five written notices, further investigation is postponed. This study tested the effect of sending a special reminder notice to individuals one year after their accounts had been deferred. With a benefit to cost ratio of 8 to 1, the notice proved to be an effective, low cost method of collecting revenue which did not generate additional work in terms of more adjustment cases. An estimated $5.6 million of revenue is collected annually as a result of this notice.

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Hunter, Mary

"The Impact of Enforcement on Future Compliance,"
September 1987. Operations Research Section CO:E

Collection Enforcement Did Not Significantly Improve Future Compliance Of Individual Income Tax Filers

In order to collect delinquent taxes from individuals Collection must, on occasion, take enforcement steps. These may include the filing of a notice of federal tax lien, attachment of wages or bank accounts, or seizure of property. This study tracked future return filing and payment compliance of individuals for whom enforcement was necessary. The results show that enforcement did not improve future compliance. We believe that many taxpayers who require enforcement to resolve their accounts are "hard core delinquents" whose compliance behavior is not easily modified.

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Examination

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Bennett, Charles

"Foreign Tax Credit Study--Report of Findings," April 1986. Operations Research Section EX:P:O

Substantial Errors In Foreign Tax Credit Computations Can Be Resolved At Service Centers

This study tested the feasibility of correcting foreign tax credit computations (Form 1116) in the service centers. The study, which involved individual returns claiming a foreign tax credit of $25,000 or less, also assessed the magnitude of examination potential in the foreign tax credit area.

The results of the study demonstrate that many corrections can be made at the service centers. Although the overall no change rate was 47.5 percent, the average recommended decrease in foreign tax credit was $739 per return for those cases which resulted in a decrease.

An operational service center program is being developed to contact taxpayers who have filed an incorrect Form 1116. We will also eliminate those returns we know are often no changed so that the operational no change rate will be at a minimum.

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Information Systems Development

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Blevins, Betty

"Data Base Machine Feasibility Study,"
August 1987. Database and Technology Assessment Section IS:S:T

Data Base Machine Is Recommended For Applications Involving Large Data Volumes And Complex Ad-Hoc Access Requirements

Data base machines are special-purpose hardware devices designed to perform common data management operations efficiently. The purpose of this study was to evaluate the feasibility of using DBM technology (and associated fourth generation software) for applications involving large volumes of data and complex data access requirements. The data base machine tested was a Metaphor Computer System (which uses a Britton-Lee Model IDM-500) with a disk capacity of one gigabyte. Metaphor Corporation was contracted to provide the fourth generation "front-end" software.

The results of the testing showed that data definition and loading were considerably easier with a relational data base structure on the DBM than with traditional data base architectures. Ease of access by end users was dependent upon the fourth generation language software interfacing to the DBM. The DBM demonstrated an impressive response time; however, as with all relational data base products, the more complex the design and data accessing requirements, the greater the effect on performance.

The study recommended data base machine technology as a data base solution for systems with a high volume of data and significant ad-hoc query needs.

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SECTION IV

Statistical Tables

Table E-1. Employment, Income and Population—Actual: 1979, 1986 and Projected: 1987, 1994—United States and IRS Regions

	United States		North Atlantic		Mid-Atlantic		Southeast		Central		Midwest		Southwest		Western	
	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)
Civilian Employment (thousands)																
Actual																
1979	98,825		13,737		13,671		16,726		13,402		14,373		12,070		14,846	
1986	109,600	1.56	15,493	1.83	15,105	1.50	19,624	2.48	13,426	0.03	14,674	0.30	14,262	2.59	17,016	2.09
Projected																
1987	112,112	2.29	15,844	2.27	15,491	2.56	20,164	2.75	13,724	2.22	14,963	1.97	14,377	0.81	17,549	3.13
1994	122,564	1.33	17,182	1.21	16,953	1.35	22,283	1.50	14,288	0.59	15,934	0.93	16,055	1.67	19,869	1.89
Personal Income (millions of current $)																
Actual																
1979	2,033,950		287,213		282,121		307,537		277,664		296,825		246,796		335,794	
1986	3,485,650	10.20	519,275	11.54	488,990	10.48	566,474	12.03	410,892	6.85	459,470	7.83	437,693	11.05	602,856	11.36
Projected																
1987	3,662,730	5.08	548,544	5.64	515,220	5.36	601,329	6.15	429,155	4.44	478,112	4.06	452,428	3.37	637,942	5.82
1994	5,949,536	8.92	887,732	8.83	822,944	8.53	1,005,266	9.60	653,341	7.46	746,606	8.02	757,184	9.62	1,076,463	9.82
Personal Income (millions of constant 1982 $)																
Actual																
1979	2,600,959		367,280		360,768		393,269		355,069		379,571		315,595		429,404	
1986	3,051,991	2.48	454,670	3.40	428,153	2.67	495,997	3.73	359,771	0.19	402,306	0.86	383,238	3.06	527,853	3.28
Projected																
1987	3,087,992	1.18	462,469	1.72	434,374	1.45	506,971	2.21	361,814	0.57	403,089	0.19	381,435	-0.47	537,839	1.89
1994	3,653,863	2.62	545,193	2.56	505,404	2.34	617,376	3.11	401,244	1.56	458,522	1.96	465,018	3.13	661,101	3.27
Per Capita Personal Income (current $)																
Actual																
1979	9,038		9,559		9,368		7,472		8,907		9,365		8,845		10,186	
1986	14,427	8.52	16,987	11.10	15,733	9.71	12,321	9.27	13,210	6.90	14,221	7.41	13,362	7.30	15,940	8.07
Projected																
1987	15,021	4.12	17,833	4.98	16,451	4.56	12,894	4.65	13,740	4.01	14,764	3.82	13,687	2.43	16,592	4.09
1994	23,014	7.60	27,357	7.63	25,078	7.49	19,766	7.61	20,596	7.13	15,669	0.88	21,318	7.96	25,460	7.64
Per Capita Personal Income (constant 1982 $)																
Actual																
1979	11,557		12,224		11,980		9,555		11,390		11,976		11,311		13,025	
1986	12,632	1.33	14,875	3.10	13,776	2.14	10,789	1.84	11,567	0.22	12,451	0.57	11,700	0.49	13,957	1.02
Projected																
1987	12,664	0.25	15,035	1.08	13,870	0.68	10,871	0.76	11,584	0.15	12,447	-0.03	11,539	-1.38	13,988	0.22
1994	14,134	1.66	16,801	1.68	15,402	1.58	12,139	1.67	12,649	1.31	13,926	1.70	13,092	1.92	15,658	1.71
Population (thousands)																
Actual																
1979	225,055		30,045		30,115		41,159		31,173		31,695		27,901		32,967	
1986	241,607	1.05	30,566	0.25	31,080	0.46	45,973	1.67	31,104	-0.03	32,309	0.28	32,755	2.49	37,820	2.10
Projected																
1987	243,833	0.92	30,760	0.63	31,318	0.77	46,633	1.44	31,233	0.41	32,384	0.23	33,056	0.92	38,449	1.66
1994	258,510	0.86	32,450	0.78	32,815	0.68	50,859	1.29	31,721	0.22	32,925	0.24	35,519	1.06	42,221	1.40
Population Age 65 and Over (thousands)																
Actual																
1979	25,134		3,671		3,377		4,905		3,280		3,774		2,807		3,320	
1986	29,190	2.31	4,038	1.43	3,890	2.17	6,168	3.68	3,534	1.11	4,064	1.10	3,443	3.24	4,053	3.15
Projected																
1987	29,847	2.25	4,120	2.03	3,985	2.44	6,372	3.31	3,591	1.61	4,108	1.08	3,503	1.74	4,168	2.84
1994	33,381	1.69	4,571	1.56	4,531	1.96	7,572	2.69	3,812	0.88	4,270	0.56	3,840	1.37	4,785	2.11

Table E-2. Employment, Income and Population—Actual: 1979, 1986 and Projected: 1987, 1994—IRS North Atlantic Region and Districts

	North Atlantic		Albany		Augusta		Boston		Brooklyn		Buffalo		Burlington		Hartford		Manhattan		Portsmouth		Providence	
	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)
Civilian Employment (thousands)																						
Actual																						
1979	13,737		743		453		2,845		2,039		1,812		216		1,527		3,252		413		437	
1986	15,493	1.83	835	1.77	519	2.08	3,265	2.11	2,277	1.67	2,011	1.57	250	2.25	1,768	2.25	3,563	1.37	534	4.19	471	1.11
Projected																						
1987	15,844	2.27	852	2.04	534	2.89	3,333	2.08	2,326	2.15	2,054	2.14	256	2.40	1,819	2.88	3,641	2.19	553	3.56	476	1.06
1994	17,182	1.21	918	1.11	574	1.07	3,542	0.90	2,505	1.10	2,213	1.11	287	1.73	2,076	2.02	3,921	1.10	616	1.63	530	1.62
Personal Income (millions of current $)																						
Actual																						
1979	287,213		19,275		8,004		52,972		67,017		41,937		3,699		32,674		45,874		7,640		8,121	
1986	519,275	11.54	35,480	12.01	14,836	12.19	101,679	13.14	118,464	10.97	71,970	10.23	6,907	12.39	61,366	12.54	77,976	10.00	16,275	16.15	14,322	10.91
Projected																						
1987	548,544	5.64	37,460	5.58	15,933	7.39	107,898	6.12	124,738	5.30	75,503	4.91	7,205	4.31	65,373	6.53	81,818	4.93	17,497	7.51	15,119	5.56
1994	887,732	8.83	62,108	9.40	25,881	8.92	171,981	8.48	194,686	8.01	124,992	9.36	11,977	9.46	115,342	10.92	124,754	7.50	29,975	10.19	26,036	10.32
Personal Income (millions of constant 1982 $)																						
Actual																						
1979	367,280		24,648		10,235		67,739		85,699		53,627		4,730		41,782		58,662		9,769		10,384	
1986	454,670	3.40	31,065	3.72	12,990	3.85	89,028	4.49	103,725	3.00	63,016	2.50	6,047	3.98	53,731	4.09	68,274	2.34	14,250	6.55	12,540	2.97
Projected																						
1987	462,469	1.72	31,581	1.66	13,432	3.40	90,967	2.18	105,164	1.39	63,655	1.01	6,074	0.45	55,114	2.57	68,979	1.03	14,751	3.52	12,746	1.64
1994	545,193	2.56	38,143	2.97	15,894	2.62	105,620	2.30	119,564	1.96	76,762	2.94	7,355	3.01	70,836	4.08	76,616	1.58	18,408	3.54	15,989	3.63
Per Capita Personal Income (current $)																						
Actual																						
1979	9,559		8,903		7,102		9,199		9,872		9,118		7,296		10,516		11,132		8,358		8,468	
1986	16,987	11.10	15,846	11.14	12,616	11.09	17,399	12.73	17,302	10.75	15,790	10.45	12,744	10.67	19,200	11.80	18,753	9.78	15,801	12.72	14,674	10.47
Projected																						
1987	17,833	4.98	16,611	4.83	13,446	6.58	18,347	5.45	18,114	4.69	16,532	4.70	13,148	3.17	20,271	5.58	19,564	4.32	16,648	5.36	15,427	5.13
1994	27,357	7.63	25,643	7.77	20,475	7.47	27,905	7.44	27,206	7.17	26,040	8.22	19,699	7.12	32,889	8.89	28,705	6.67	25,930	7.96	25,326	9.17
Per Capita Personal Income (constant 1982 $)																						
Actual																						
1979	12,224		11,385		9,082		11,764		12,625		11,661		9,330		13,448		14,235		10,689		10,829	
1986	14,875	3.10	13,874	3.12	11,046	3.09	15,234	4.21	15,149	2.86	13,825	2.65	11,158	2.80	16,812	3.57	16,420	2.19	13,835	4.20	12,849	2.66
Projected																						
1987	15,035	1.08	14,005	0.94	11,336	2.63	15,468	1.54	15,272	0.81	13,938	0.82	11,085	-0.65	17,090	1.65	16,494	0.45	14,035	1.45	13,007	1.23
1994	16,801	1.68	15,748	1.78	12,575	1.56	17,138	1.54	16,708	1.34	15,993	2.11	12,098	1.31	20,199	2.60	17,630	0.98	15,925	1.92	15,554	2.80
Population (thousands)																						
Actual																						
1979	30,045		2,165		1,127		5,758		6,788		4,599		507		3,107		4,121		914		959	
1986	30,566	0.25	2,239	0.49	1,176	0.62	5,844	0.21	6,847	0.12	4,558	-0.13	542	0.99	3,196	0.41	4,158	0.13	1,030	1.81	976	0.25
Projected																						
1987	30,760	0.63	2,255	0.71	1,185	0.77	5,881	0.63	6,886	0.57	4,567	0.20	548	1.11	3,225	0.91	4,182	0.58	1,051	2.04	980	0.41
1994	32,450	0.78	2,422	1.06	1,264	0.95	6,163	0.69	7,156	0.56	4,800	0.73	608	1.56	3,507	1.25	4,346	0.56	1,156	1.43	1,028	0.70
Population Age 65 and Over (thousands)																						
Actual																						
1979	3,671		266		138		724		822		548		58		359		530		101		125	
1986	4,038	1.43	288	1.18	152	1.45	788	1.26	918	1.67	582	0.89	63	1.23	420	2.43	566	0.97	116	2.12	145	2.29
Projected																						
1987	4,120	2.03	292	1.39	155	1.97	801	1.65	940	2.40	591	1.55	64	1.59	433	3.10	576	1.77	119	2.59	149	2.76
1994	4,571	1.56	315	1.13	166	1.01	877	1.36	1,052	1.70	639	1.16	70	1.34	521	2.90	629	1.31	129	1.20	173	2.30

Table 2-3. Employment, Income and Population—Actual: 1979, 1986 and Projected: 1987, 1994—IRS Mid-Atlantic Region and Districts

	Mid-Atlantic		Baltimore		Newark		Philadelphia		Pittsburgh		Richmond		Wilmington	
	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)
Civilian Employment (thousands)														
Actual														
1979	13,671		2,517		3,309		3,477		1,776		2,313		279	
1986	15,105	1.50	2,832	1.79	3,867	2.41	3,510	0.14	1,779	0.02	2,790	2.95	327	2.46
Projected														
1987	15,491	2.56	2,904	2.54	3,984	3.03	3,572	1.77	1,810	1.74	2,881	3.26	340	3.98
1994	16,953	1.35	3,231	1.61	4,348	1.31	3,805	0.93	1,927	0.92	3,262	1.89	380	1.68
Personal Income (millions of current $)														
Actual														
1979	282,121		47,713		74,212		67,128		41,489		46,001		5,578	
1986	488,990	10.48	85,697	11.37	138,911	12.45	106,265	8.33	59,657	6.26	89,093	13.38	9,367	9.70
Projected														
1987	515,220	5.36	90,301	5.37	147,512	6.19	111,201	4.64	61,797	3.59	94,321	5.87	10,088	7.70
1994	822,944	8.53	148,613	9.23	236,968	8.66	169,528	7.49	94,441	7.55	156,914	9.48	16,480	9.05
Personal Income (millions of constant 1982 $)														
Actual														
1979	360,768		61,014		94,900		85,841		53,054		58,824		7,132	
1986	428,153	2.67	75,035	3.28	121,628	4.02	93,044	1.20	52,234	-0.22	78,008	4.66	8,201	2.14
Projected														
1987	434,374	1.45	76,131	1.46	124,365	2.25	93,751	0.76	52,100	-0.26	79,520	1.94	8,505	3.71
1994	505,404	2.34	91,269	2.84	145,532	2.43	104,114	1.58	58,000	1.62	96,367	3.03	10,121	2.71
Per Capita Personal Income (current $)														
Actual														
1979	9,368		9,757		10,043		9,188		9,029		8,622		9,297	
1986	15,733	9.71	16,803	10.32	18,184	11.58	14,335	8.00	13,293	6.75	15,347	11.14	14,751	8.38
Projected														
1987	16,451	4.56	17,517	4.25	19,120	5.15	14,960	4.36	13,816	3.93	15,989	4.18	15,689	6.36
1994	25,078	7.49	27,233	7.92	28,811	7.24	22,219	6.93	21,208	7.64	24,656	7.74	24,023	7.59
Per Capita Personal Income (constant 1982 $)														
Actual														
1979	11,980		12,477		12,843		11,749		11,546		11,026		11,888	
1986	13,776	2.14	14,713	2.56	15,922	3.42	12,552	0.98	11,639	0.12	13,438	3.13	12,916	1.24
Projected														
1987	13,870	0.68	14,768	0.37	16,120	1.24	12,613	0.49	11,647	0.07	13,480	0.31	13,227	2.41
1994	15,402	1.58	16,725	1.89	17,694	1.39	13,645	1.17	13,025	1.69	15,142	1.76	14,754	1.65
Population (thousands)														
Actual														
1979	30,115		4,890		7,389		7,306		4,595		5,335		600	
1986	31,080	0.46	5,100	0.61	7,639	0.48	7,413	0.21	4,488	-0.33	5,805	1.26	635	0.83
Projected														
1987	31,318	0.77	5,155	1.08	7,715	0.99	7,433	0.27	4,473	-0.33	5,899	1.62	643	1.26
1994	32,815	0.68	5,457	0.84	8,225	0.94	7,630	0.38	4,453	-0.06	6,364	1.13	686	0.96
Population Age 65 and Over (thousands)														
Actual														
1979	3,377		462		847		930		585		495		58	
1986	3,890	2.17	550	2.72	984	2.31	1,047	1.80	645	1.47	592	2.80	72	3.45
Projected														
1987	3,985	2.44	568	3.27	1,011	2.74	1,068	2.01	655	1.55	609	2.87	74	2.78
1994	4,531	1.96	665	2.44	1,174	2.30	1,190	1.63	717	1.35	697	2.06	88	2.70

Table B-4. Employment, Income and Population—Actual: 1979, 1986 and Projected: 1987, 1994—IRS Southeast Region and Districts

	Southeast		Atlanta		Birmingham		Columbia		Fort Lauderdale		Greensboro		Jackson		Jacksonville		Little Rock		Nashville		New Orleans	
	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)
Civilian Employment (thousands)																						
Actual																						
1979	16,726		2,325		1,489		1,285		—		2,594		916		—		819		1,943		1,658	
1986	19,624	2.48	2,905	3.56	1,584	0.91	1,474	2.10	—	—	2,989	2.18	933	0.27	—	—	903	1.47	2,125	1.34	1,686	0.24
Projected																						
1987	20,164	2.75	3,018	3.89	1,616	2.02	1,521	3.19	2,373	—	3,078	2.98	947	1.50	2,863	—	914	1.22	2,197	3.39	1,637	-2.91
1994	22,283	1.50	3,382	1.72	1,711	0.84	1,661	1.31	2,759	2.32	3,329	1.16	992	0.68	3,328	2.32	966	0.81	2,370	1.12	1,785	1.29
Personal Income (millions of current $)																						
Actual																						
1979	307,537		40,841		27,197		21,122		—		42,491		15,786		—		15,733		32,873		31,651	
1986	566,474	12.03	81,017	14.05	45,062	9.38	37,906	11.35	—	—	77,386	11.73	25,157	8.48	—	—	26,000	9.32	57,129	10.54	50,596	8.55
Projected																						
1987	601,329	6.15	87,344	7.81	47,307	4.98	40,807	7.65	80,807	—	83,186	7.49	26,019	3.43	96,861	—	26,981	3.77	61,041	6.85	50,976	0.75
1994	1,005,266	9.60	147,865	9.90	74,806	8.30	67,062	9.19	141,538	10.74	133,752	8.68	40,018	7.69	177,026	11.82	42,455	8.19	100,028	9.12	80,716	8.33
Personal Income (millions of constant 1982 $)																						
Actual																						
1979	393,269		52,226		34,778		27,010		—		54,336		20,186		—		20,118		42,037		40,474	
1986	495,997	3.73	70,937	5.12	39,455	1.92	33,190	3.27	—	—	67,758	3.53	22,027	1.30	—	—	22,765	1.88	50,021	2.71	44,301	1.35
Projected																						
1987	506,971	2.21	73,638	3.81	39,883	1.08	34,403	3.65	68,127	—	70,132	3.50	21,936	-0.41	81,662	—	22,747	-0.08	51,462	2.88	42,977	-2.99
1994	617,376	3.11	90,810	3.33	45,941	2.17	41,185	2.82	86,924	3.94	82,142	2.45	24,576	1.72	108,719	4.73	26,073	2.09	61,431	2.77	49,571	2.19
Per Capita Personal Income (current $)																						
Actual																						
1979	7,472		7,558		7,014		6,826		—		7,307		6,281		—		6,918		7,236		7,630	
1986	12,321	9.27	13,227	10.72	11,102	8.33	11,191	9.14	—	—	12,188	9.54	9,569	7.48	—	—	10,942	8.31	11,869	9.15	11,231	6.74
Projected																						
1987	12,894	4.65	13,986	5.74	11,595	4.44	11,872	6.09	15,873	—	12,941	6.18	9,852	2.96	13,903	—	11,237	2.70	12,565	5.86	11,365	1.19
1994	19,766	7.61	21,520	7.70	17,789	7.63	17,945	7.31	23,848	7.18	19,566	7.31	14,680	7.00	21,462	7.77	16,728	6.98	19,721	8.14	17,207	7.34
Per Capita Personal Income (constant 1982 $)																						
Actual																						
1979	9,555		9,666		8,970		8,762		—		9,344		8,033		—		8,847		9,253		9,758	
1986	10,789	1.84	11,582	2.83	9,720	1.19	9,799	1.69	—	—	10,672	2.03	8,378	0.61	—	—	9,581	1.19	10,393	1.76	9,834	0.11
Projected																						
1987	10,871	0.76	11,792	1.81	9,775	0.57	10,009	2.14	13,382	—	10,911	2.24	8,306	-0.86	11,721	—	9,474	-1.12	10,593	1.92	9,582	-2.56
1994	12,139	1.67	13,216	1.73	10,925	1.68	11,021	1.44	14,646	1.35	12,016	1.45	9,016	1.22	13,181	1.78	10,273	1.20	12,112	2.05	10,567	1.47
Population (thousands)																						
Actual																						
1979	41,159		5,403		3,877		3,094		—		5,815		2,513		—		2,274		4,543		4,148	
1986	45,973	1.67	6,125	1.91	4,059	0.67	3,387	1.35	—	—	6,349	1.31	2,629	0.66	—	—	2,376	0.64	4,813	0.85	4,505	1.23
Projected																						
1987	46,633	1.44	6,245	1.96	4,080	0.52	3,437	1.48	5,091	—	6,428	1.24	2,641	0.46	6,967	—	2,401	1.05	4,858	0.93	4,485	-0.44
1994	50,859	1.29	6,871	1.43	4,205	0.44	3,737	1.25	5,935	2.37	6,836	0.91	2,726	0.46	8,248	2.63	2,538	0.82	5,072	0.63	4,691	0.66
Population Age 65 and Over (thousands)																						
Actual																						
1979	4,905		503		430		276		—		586		284		—		307		508		395	
1986	6,168	3.68	634	3.72	505	2.49	352	3.93	—	—	739	3.73	324	2.01	—	—	341	1.58	585	2.17	465	2.53
Projected																						
1987	6,372	3.31	656	3.47	517	2.38	365	3.69	1,139	—	766	3.65	330	1.85	1,186	—	347	1.76	598	2.22	468	0.65
1994	7,572	2.69	775	2.59	577	1.66	446	3.17	1,444	3.83	918	2.83	356	1.13	1,510	3.90	374	1.11	658	1.43	514	1.40

Table E-5. Employment, Income and Population—Actual: 1979, 1986 and Projected: 1987, 1994—IRS Central Region and Districts

	Central		Cincinnati		Cleveland		Detroit		Indianapolis		Louisville		Parkersburg	
	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)
Civilian Employment (thousands)														
Actual														
1979	13,402		2,063		2,838		3,976		2,444		1,361		720	
1986	13,426	0.03	2,106	0.30	2,851	0.07	3,935	-0.15	2,475	0.18	1,403	0.44	656	-1.27
Projected														
1987	13,724	2.22	2,160	2.56	2,922	2.49	4,007	1.83	2,543	2.75	1,431	2.00	661	0.76
1994	14,288	0.59	2,246	0.57	3,039	0.57	4,119	0.40	2,676	0.75	1,507	0.76	701	0.86
Personal Income (millions of current $)														
Actual														
1979	277,664		41,571		59,513		88,384		47,430		26,665		14,101	
1986	410,892	6.85	63,521	7.54	84,461	5.99	129,526	6.65	71,515	7.25	41,740	8.08	20,129	6.11
Projected														
1987	429,155	4.44	67,012	5.50	88,428	4.70	134,677	3.98	74,529	4.21	44,071	5.58	20,438	1.54
1994	653,341	7.46	105,061	8.11	133,366	7.26	200,258	6.96	113,787	7.52	68,686	7.98	32,183	8.21
Personal Income (millions of constant 1982 $)														
Actual														
1979	355,069		53,159		76,103		113,023		60,652		34,098		18,031	
1986	359,771	0.19	55,618	0.66	73,952	-0.40	113,411	0.05	62,617	0.46	36,547	1.03	17,624	-0.32
Projected														
1987	361,814	0.57	56,496	1.58	74,552	0.81	113,544	0.12	62,834	0.35	37,155	1.66	17,230	-2.24
1994	401,244	1.56	64,522	2.03	81,905	1.41	122,986	1.19	69,881	1.60	42,182	1.93	19,764	2.10
Per Capita Personal Income (current $)														
Actual														
1979	8,907		9,112		9,507		9,535		8,644		7,301		7,257	
1986	13,210	6.90	13,687	7.17	13,776	6.41	14,137	6.89	12,967	7.14	11,175	7.58	10,483	6.35
Projected														
1987	13,740	4.01	14,337	4.75	14,397	4.51	14,616	3.39	13,467	3.86	11,733	4.99	10,683	1.91
1994	20,596	7.13	21,651	7.29	21,647	7.19	21,493	6.72	20,300	7.25	17,822	7.41	16,658	7.99
Per Capita Personal Income (constant 1982 $)														
Actual														
1979	11,390		11,653		12,157		12,194		11,054		9,337		9,280	
1986	11,567	0.22	11,984	0.41	12,062	-0.11	12,379	0.22	11,354	0.39	9,785	0.69	9,180	-0.15
Projected														
1987	11,584	0.15	12,087	0.86	12,131	0.57	12,323	-0.45	11,354	0.00	9,892	1.09	9,007	-1.88
1994	12,649	1.31	13,298	1.43	13,294	1.37	13,200	1.02	12,468	1.40	10,945	1.52	10,230	1.94
Population (thousands)														
Actual														
1979	31,173		4,562		6,260		9,269		5,487		3,652		1,943	
1986	31,104	-0.03	4,641	0.25	6,131	-0.29	9,162	-0.16	5,515	0.07	3,735	0.32	1,920	-0.17
Projected														
1987	31,233	0.41	4,674	0.71	6,142	0.18	9,214	0.57	5,534	0.34	3,756	0.56	1,913	-0.36
1994	31,721	0.22	4,852	0.54	6,161	0.04	9,317	0.16	5,605	0.18	3,854	0.37	1,932	0.14
Population Age 65 and Over (thousands)														
Actual														
1979	3,280		463		695		902		581		405		234	
1986	3,534	1.11	506	1.33	753	1.19	977	1.19	624	1.06	430	0.88	244	0.61
Projected														
1987	3,591	1.61	516	1.98	768	1.99	996	1.94	632	1.28	434	0.93	245	0.41
1994	3,812	0.88	563	1.30	821	0.99	1,072	1.09	662	0.68	443	0.30	251	0.35

Table B-6. Employment, Income and Population—Actual: 1979, 1986 and Projected: 1987, 1994—IRS Midwest Region and Districts

	Midwest		Aberdeen		Chicago		Des Moines		Fargo		Helena		Milwaukee		Omaha		St. Louis		St. Paul		Springfield	
	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)
Civilian Employment (thousands)																						
Actual																						
1979	14,373		264		4,272		1,236		267		309		2,142		690		2,198		1,932		1,063	
1986	14,674	0.30	275	0.60	4,207	-0.22	1,180	-0.65	274	0.37	301	-0.37	2,213	0.47	722	0.66	2,358	1.04	2,081	1.10	1,063	0.00
Projected																						
1987	14,963	1.97	280	1.82	4,300	2.21	1,193	1.10	272	-0.73	302	0.33	2,261	2.17	735	1.80	2,405	1.99	2,128	2.26	1,087	2.26
1994	15,934	0.93	308	1.43	4,522	0.74	1,284	1.09	297	1.31	319	0.80	2,431	1.07	781	0.89	2,537	0.78	2,313	1.24	1,142	0.72
Personal Income (millions of current $)																						
Actual																						
1979	296,825		5,297		91,026		26,422		5,413		6,191		41,613		13,882		41,036		36,938		29,007	
1986	459,470	7.83	8,065	7.47	135,289	6.95	36,871	5.65	8,173	7.28	9,193	6.93	65,647	8.25	21,735	8.08	69,789	10.01	62,055	9.71	42,653	6.72
Projected																						
1987	478,112	4.06	8,324	3.21	141,619	4.68	37,589	1.95	8,163	-0.12	9,729	5.83	68,570	4.45	21,841	0.49	72,873	4.42	64,843	4.49	44,561	4.47
1994	746,606	8.02	13,433	8.77	214,244	7.33	59,879	8.47	13,251	8.90	13,446	5.46	109,625	8.55	34,183	8.07	115,187	8.30	105,887	9.04	67,471	7.34
Personal Income (millions of constant 1982 $)																						
Actual																						
1979	379,571		6,773		116,401		33,787		6,921		7,916		53,213		17,751		52,475		47,235		37,093	
1986	402,306	0.86	7,061	0.61	118,457	0.25	32,283	-0.64	7,156	0.49	8,049	0.24	57,479	1.15	19,030	1.03	61,106	2.35	54,334	2.15	37,346	0.10
Projected																						
1987	403,089	0.19	7,017	-0.62	119,396	0.79	31,690	-1.84	6,882	-3.83	8,202	1.90	57,810	0.58	18,413	-3.24	61,438	0.54	54,668	0.61	37,568	0.59
1994	458,522	1.96	8,249	2.51	131,576	1.46	36,774	2.29	8,138	2.61	8,257	0.10	67,325	2.35	20,993	2.00	70,741	2.16	65,029	2.71	41,436	1.47
Per Capita Personal Income (current $)																						
Actual																						
1979	9,365		7,677		10,934		9,039		8,289		7,826		8,992		8,859		8,375		9,127		9,288	
1986	14,221	7.41	11,375	6.88	15,991	6.61	12,932	6.15	12,055	6.49	11,211	6.18	13,705	7.49	13,593	7.63	13,748	9.17	14,705	8.73	13,714	6.81
Projected																						
1987	14,764	3.82	11,740	3.21	16,665	4.21	13,244	2.41	12,111	0.46	11,893	6.08	14,276	4.17	13,667	0.54	14,300	4.02	15,308	4.10	14,309	4.34
1994	15,669	0.88	18,528	8.26	24,691	6.88	20,662	8.00	19,288	8.47	16,180	5.15	22,468	8.20	21,271	7.95	22,466	8.16	24,693	8.76	21,045	6.73
Per Capita Personal Income (constant 1982 $)																						
Actual																						
1979	11,976		9,817		13,982		11,559		10,600		10,009		11,380		11,238		10,709		11,672		11,877	
1986	12,451	0.57	9,960	0.21	14,009	0.03	11,323	-0.29	10,555	-0.06	9,816	-0.28	11,999	0.78	11,902	0.84	12,039	1.77	12,875	1.47	12,008	0.16
Projected																						
1987	12,447	-0.03	9,898	-0.62	14,050	0.29	11,167	-1.38	10,211	-3.26	10,027	2.15	12,036	0.31	11,523	-3.18	12,056	0.14	12,906	0.24	12,064	0.47
1994	13,926	1.70	11,379	2.14	15,163	1.13	12,690	1.95	11,846	2.29	9,937	-0.13	13,790	2.08	13,064	1.91	13,798	2.06	15,166	2.50	12,925	1.02
Population (thousands)																						
Actual																						
1979	31,695		690		8,325		2,923		653		791		4,676		1,567		4,900		4,047		3,123	
1986	32,309	0.28	709	0.39	8,456	0.22	2,851	-0.35	678	0.55	820	0.52	4,790	0.35	1,599	0.29	5,076	0.51	4,220	0.61	3,110	-0.06
Projected																						
1987	32,384	0.23	709	0.00	8,498	0.50	2,838	-0.46	674	-0.59	818	-0.24	4,803	0.27	1,598	-0.06	5,096	0.39	4,236	0.38	3,114	0.13
1994	32,925	0.24	725	0.32	8,677	0.30	2,898	0.30	687	0.28	831	0.23	4,879	0.23	1,607	0.08	5,127	0.09	4,288	0.18	3,206	0.42
Population Age 65 and Over (thousands)																						
Actual																						
1979	3,774		90		847		385		78		83		558		206		643		478		406	
1986	4,064	1.10	97	1.11	944	1.64	391	0.22	90	2.20	91	1.38	608	1.28	215	0.62	700	1.27	517	1.17	411	0.18
Projected																						
1987	4,108	1.08	97	0.00	962	1.91	392	0.26	90	0.00	91	0.00	615	1.15	216	0.47	709	1.29	523	1.16	413	0.49
1994	4,270	0.56	101	0.59	1,041	1.17	399	0.26	97	1.11	93	0.31	646	0.72	215	-0.07	725	0.32	535	0.33	418	0.17

Table E-7. Employment, Income and Population--Actual: 1979, 1986 and Projected: 1987, 1994--IRS Southwest Region and Districts

	Southwest		Albuquerque		Austin		Cheyenne		Dallas		Denver		Houston		Oklahoma City		Phoenix		Salt Lake City		Wichita	
	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)
Civilian Employment (thousands)																						
Actual																						
1979	12,070		504		—		219		2,773		1,331		—		1,188		1,071		600		1,034	
1986	14,262	2.59	573	1.96	1,883	—	218	-0.07	3,321	2.82	1,591	2.79	2,143	—	1,270	0.99	1,476	5.40	699	2.36	1,088	0.75
Projected																						
1987	14,377	0.81	588	2.62	1,879	-0.21	211	-3.21	3,313	-0.24	1,629	2.39	2,138	-0.23	1,255	-1.18	1,533	3.86	717	2.58	1,114	2.39
1994	16,055	1.67	692	2.53	2,060	1.38	242	2.10	3,633	1.38	1,893	2.32	2,345	1.38	1,339	0.96	1,815	2.63	833	2.31	1,203	1.14
Personal Income (millions of current $)																						
Actual																						
1979	246,796		9,467		—		4,536		55,039		26,403		—		24,855		21,710		10,286		22,391	
1986	437,693	11.05	16,351	10.39	63,775	—	6,774	7.05	96,985	10.89	49,870	12.70	66,151	—	40,617	9.06	44,347	14.90	17,917	10.60	34,906	7.98
Projected																						
1987	452,428	3.37	16,976	3.82	65,780	3.14	6,687	-1.28	99,554	2.65	52,223	4.72	67,697	2.34	40,719	0.25	47,803	7.79	18,580	3.70	36,409	4.31
1994	757,184	9.62	30,441	11.33	112,994	10.25	10,621	8.40	156,679	8.20	91,418	10.72	111,862	9.32	62,606	7.68	87,540	11.88	34,116	11.95	58,907	8.83
Personal Income (millions of constant 1982 $)																						
Actual																						
1979	315,595		12,106		—		5,800		70,382		33,763		—		31,783		27,762		13,153		28,632	
1986	383,238	3.06	14,316	2.61	55,840	—	5,931	0.32	84,918	2.95	43,665	4.19	57,920	—	35,563	1.70	38,829	5.69	15,687	2.75	30,563	0.96
Projected																						
1987	381,435	-0.47	14,312	-0.03	55,458	-0.68	5,637	-4.96	83,932	-1.16	44,028	0.83	57,074	-1.46	34,329	-3.47	40,301	3.79	15,664	-0.15	30,695	0.43
1994	465,018	3.13	18,695	4.37	69,394	3.59	6,522	2.24	96,223	2.09	56,143	3.93	68,699	2.91	38,449	1.71	53,762	4.77	20,952	4.82	36,177	2.55
Per Capita Personal Income (current $)																						
Actual																						
1979	8,845		7,373		—		10,013		9,526		9,248		—		8,351		8,208		7,249		9,520	
1986	13,362	7.30	11,018	7.06	11,443	—	13,360	4.78	14,305	7.17	15,232	9.24	15,162	—	12,272	6.71	13,305	8.87	10,729	6.86	14,172	6.98
Projected																						
1987	13,687	2.43	11,272	2.31	11,686	2.12	13,215	-1.09	14,593	2.01	15,787	3.64	15,340	1.17	12,354	0.67	13,994	5.18	10,981	2.35	14,752	4.09
1994	21,318	7.96	18,023	8.56	18,520	8.35	20,116	7.46	22,469	7.71	24,548	7.93	23,649	7.74	18,457	7.06	22,095	8.27	17,909	9.01	23,422	8.40
Per Capita Personal Income (constant 1982 $)																						
Actual																						
1979	11,311		9,428		—		12,804		12,181		11,826		—		10,680		10,496		9,270		12,174	
1986	11,700	0.49	9,647	0.33	10,020	—	11,699	-1.23	12,524	0.40	13,337	1.83	13,275	—	10,750	0.09	11,650	1.57	9,393	0.19	12,409	0.28
Projected																						
1987	11,539	-1.38	9,503	-1.49	9,852	-1.68	11,142	-4.76	12,303	-1.76	13,309	-0.21	12,933	-2.58	10,415	-3.12	11,798	1.27	9,258	-1.44	12,438	0.23
1994	13,092	1.92	11,069	2.35	11,374	2.21	12,353	1.55	13,799	1.74	15,076	1.90	14,524	1.76	11,335	1.26	13,569	2.14	10,998	2.68	14,384	2.24
Population (thousands)																						
Actual																						
1979	27,901		1,284		—		453		5,778		2,855		—		2,976		2,645		1,419		2,352	
1986	32,755	2.49	1,484	2.23	5,573	—	507	1.70	6,780	2.48	3,274	2.10	4,363	—	3,308	1.59	3,333	3.72	1,670	2.53	2,463	0.67
Projected																						
1987	33,056	0.92	1,506	1.48	5,629	1.00	506	-0.20	6,822	0.62	3,308	1.04	4,413	1.15	3,296	-0.36	3,416	2.49	1,692	1.32	2,468	0.20
1994	35,519	1.06	1,689	1.74	6,101	1.20	528	0.62	6,973	0.32	3,724	1.80	4,730	1.03	3,392	0.42	3,962	2.28	1,905	1.80	2,515	0.27
Population Age 65 and Over (thousands)																						
Actual																						
1979	2,807		113		—		35		621		244		—		369		292		108		307	
1986	3,443	3.24	151	4.80	571	—	36	0.41	756	3.11	277	1.93	349	—	421	2.01	424	6.46	125	2.25	333	1.21
Projected																						
1987	3,503	1.74	158	4.64	580	1.58	36	0.00	765	1.19	278	0.36	358	2.58	422	0.24	443	4.48	127	1.60	336	0.90
1994	3,840	1.37	203	4.07	619	0.96	31	-1.98	785	0.37	297	0.98	413	2.19	429	0.24	576	4.29	138	1.24	349	0.55

Table E-8. Employment, Income and Population—Actual: 1979, 1986 and Projected: 1987, 1994—IRS Western Region and Districts

	Western		Anchorage		Boise		Honolulu		Laguna Niguel		Las Vegas		Los Angeles		Portland		Sacramento		San Francisco		San Jose		Seattle	
	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)
Civilian Employment (thousands)																								
Actual																								
1979	14,846		182		370		430		—		418		—		1,154		—		—		—		1,728	
1986	17,016	2.09	248	5.18	369	-0.04	472	1.40	2,643	—	509	3.11	4,506	—	1,155	0.01	1,394	—	1,596	—	2,191	—	1,933	1.69
Projected																								
1987	17,549	3.13	242	-2.42	374	1.36	485	2.75	2,731	3.33	532	4.52	4,657	3.35	1,184	2.51	1,441	3.37	1,650	3.38	2,265	3.38	1,988	2.85
1994	19,869	1.89	276	2.01	392	0.69	543	1.71	3,117	2.02	669	3.68	5,311	2.01	1,277	1.12	1,644	2.01	1,882	2.01	2,583	2.01	2,175	1.34
Personal Income (millions of current $)																								
Actual																								
1979	335,794		4,705		7,057		8,962		—		7,698		—		22,961		—		—		—		38,736	
1986	602,856	11.36	9,151	13.50	11,385	8.76	15,407	10.27	110,081	—	14,493	12.61	134,355	—	35,372	7.72	72,995	—	50,315	—	85,116	—	64,186	9.39
Projected																								
1987	637,942	5.82	9,227	0.83	11,698	2.75	16,396	6.42	117,418	6.67	15,736	8.58	141,674	5.45	37,141	5.00	77,452	6.11	53,307	5.95	90,430	6.24	67,463	5.11
1994	1,076,463	9.82	14,829	8.67	18,915	8.81	27,370	9.56	213,869	11.73	29,057	12.09	221,832	8.08	62,159	9.62	136,405	10.87	82,328	7.78	155,912	10.34	113,787	9.81
Personal Income (millions of constant 1982 $)																								
Actual																								
1979	429,404		6,016		9,024		11,460		—		9,843		—		29,361		—		—		—		49,535	
1986	527,853	3.28	8,012	4.74	9,968	1.49	13,490	2.53	96,385	—	12,689	4.13	117,639	—	30,971	0.78	63,913	—	44,055	—	74,526	—	56,200	1.92
Projected																								
1987	537,839	1.89	7,779	-2.91	9,862	-1.06	13,823	2.47	98,993	2.71	13,266	4.55	119,443	1.53	31,313	1.10	65,298	2.17	44,942	2.01	76,240	2.30	56,877	1.20
1994	661,101	3.27	9,107	2.44	11,616	2.54	16,809	3.09	131,346	4.67	17,845	4.93	136,236	2.01	38,174	3.13	83,772	4.04	50,561	1.79	95,752	3.66	69,881	3.27
Per Capita Personal Income (current $)																								
Actual																								
1979	10,186		11,674		7,572		9,413		—		10,037		—		8,886		—		—		—		9,631	
1986	15,940	8.07	17,169	6.72	11,328	7.09	14,467	7.67	16,938	—	14,988	7.05	16,295	—	13,077	6.74	16,413	—	19,442	—	16,078	—	14,346	6.99
Projected																								
1987	16,592	4.09	17,311	0.83	11,605	2.45	15,210	5.14	17,622	4.04	15,847	5.73	16,957	4.06	13,600	4.00	17,060	3.94	20,362	4.73	16,725	4.02	17,916	24.88
1994	25,460	7.64	26,200	7.34	18,471	8.45	22,942	7.26	27,430	7.95	24,295	7.62	25,312	7.04	21,628	8.43	26,166	7.63	30,346	7.00	25,530	7.52	23,835	4.72
Per Capita Personal Income (constant 1982 $)																								
Actual																								
1979	13,025		14,929		9,682		12,038		—		12,834		—		11,363		—		—		—		12,316	
1986	13,957	1.02	15,033	0.10	9,919	0.35	12,667	0.75	14,831	—	13,122	0.32	14,268	—	11,449	0.11	14,379	—	17,023	—	14,077	—	12,561	0.28
Projected																								
1987	13,988	0.22	14,595	-2.91	9,784	-1.36	12,823	1.23	14,857	0.18	13,360	1.81	14,296	0.20	11,466	0.15	14,383	0.03	17,166	0.84	14,100	0.16	12,575	0.11
1994	15,658	1.71	16,090	1.46	11,344	2.28	14,090	1.41	16,846	1.91	14,920	1.67	15,545	1.25	13,283	2.26	16,070	1.68	18,636	1.22	15,679	1.60	14,638	2.34
Population (thousands)																								
Actual																								
1979	32,967		403		932		952		—		767		—		2,584		—		—		—		4,022	
1986	37,820	2.10	533	4.61	1,005	1.12	1,065	1.70	6,499	—	967	3.73	8,245	—	2,705	0.67	4,445	—	2,588	—	5,294	—	4,474	1.61
Projected																								
1987	38,449	1.66	533	0.00	1,008	0.30	1,078	1.22	6,663	2.52	993	2.69	8,355	1.33	2,731	0.96	4,540	2.14	2,618	1.16	5,407	2.13	4,523	1.10
1994	42,221	1.40	566	0.88	1,024	0.23	1,193	1.52	7,797	2.43	1,196	2.92	8,764	0.70	2,874	0.75	5,213	2.12	2,713	0.52	6,107	1.85	4,774	0.79
Population Age 65 and Over (thousands)																								
Actual																								
1979	3,320		12		93		73		—		60		—		297		—		—		—		422	
1986	4,053	3.15	18	7.14	100	1.08	100	5.28	701	—	92	7.62	881	—	317	0.96	509	—	324	—	523	—	488	2.23
Projected																								
1987	4,168	2.84	18	0.00	101	1.00	105	5.00	728	3.85	96	4.35	904	2.61	321	1.26	527	3.54	332	2.47	539	3.06	497	1.84
1994	4,785	2.11	22	3.17	101	0.00	141	4.90	891	3.20	134	5.65	1,010	1.68	334	0.58	624	2.63	363	1.33	628	2.36	537	1.15

Table E-9. Employment, Income and Population—Actual: 1979, 1986 and Projected: 1987, 1994—IRS Service Centers

	Andover		Brookhaven		Philadelphia		Atlanta		Memphis		Cincinnati		Kansas City		Austin		Ogden		Fresno	
	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)
Civilian Employment (thousands)																				
Actual																				
1979	10,378		8,600		8,050		9,711		10,113		10,958		10,911		10,507		9,780		9,817	
1986	11,734	1.87	9,707	1.84	8,449	0.71	11,921	3.25	11,282	1.65	10,951	-0.01	11,021	0.14	11,964	1.98	11,164	2.02	11,408	2.32
Projected																				
1987	12,005	2.31	9,951	2.51	8,627	2.11	12,338	3.50	11,613	2.93	11,181	2.10	11,246	2.04	11,924	-0.33	11,440	2.47	11,788	3.33
1994	13,069	1.27	10,774	1.18	9,344	1.19	13,833	1.73	12,603	1.22	11,612	0.55	11,916	0.85	13,057	1.36	12,921	1.85	13,436	2.00
Personal Income (millions of current $)																				
Actual																				
1979	211,260		187,103		161,909		184,789		184,528		230,234		229,104		215,512		213,822		215,690	
1986	384,890	11.74	335,351	11.32	260,987	8.74	355,363	13.19	321,123	10.57	339,377	6.77	350,249	7.55	369,381	10.20	373,656	10.68	395,274	11.89
Projected																				
1987	406,831	5.70	354,068	5.58	273,388	4.75	379,145	6.69	340,058	5.90	354,626	4.49	365,212	4.27	378,111	2.36	392,067	4.93	419,225	6.06
1994	674,179	9.39	556,408	8.16	429,063	8.13	648,315	10.14	546,936	8.69	539,554	7.45	566,406	7.87	614,205	8.92	673,160	10.24	701,311	9.61
Personal Income (millions of constant 1982 $)																				
Actual																				
1979	270,153		239,262		207,044		236,303		235,969		294,416		292,971		275,590		273,429		275,818	
1986	337,004	3.54	293,629	3.25	228,516	1.48	311,151	4.52	281,171	2.74	297,154	0.13	306,673	0.67	323,425	2.48	327,168	2.81	346,096	3.64
Projected																				
1987	342,993	1.78	298,509	1.66	230,489	0.86	319,651	2.73	286,697	1.97	298,979	0.61	307,904	0.40	318,779	-1.44	330,545	1.03	353,442	2.12
1994	414,041	2.96	341,713	2.07	263,505	2.05	398,157	3.51	335,896	2.45	331,363	1.55	347,854	1.85	377,209	2.62	413,416	3.58	430,704	3.12
Per Capita Personal Income (current $)																				
Actual																				
1979	9,113		8,396		9,309		7,580		7,868		8,963		9,567		8,733		9,094		10,507	
1986	16,185	11.09	17,987	16.32	14,798	8.42	12,723	9.69	12,918	9.17	13,252	6.84	14,423	7.25	12,972	6.93	13,985	7.68	16,684	8.40
Projected																				
1987	17,002	5.05	18,850	4.80	15,441	4.35	13,321	4.70	13,537	4.79	13,799	4.13	14,999	3.99	13,212	1.85	14,495	3.65	17,380	4.17
1994	26,715	8.16	28,205	7.09	23,540	7.49	20,437	7.63	20,705	7.56	20,660	7.10	22,850	7.48	20,411	7.78	22,729	8.12	26,390	7.41
Per Capita Personal Income (constant 1982 $)																				
Actual																				
1979	11,653		13,076		11,905		9,693		10,060		11,462		12,234		11,168		11,629		13,436	
1986	14,171	3.09	15,749	2.92	12,957	1.26	11,140	2.13	11,311	1.78	11,612	0.19	12,629	0.46	11,358	0.24	12,245	0.76	14,609	1.25
Projected																				
1987	14,334	1.15	15,893	0.91	13,018	0.47	11,231	0.82	11,413	0.90	11,633	0.18	12,645	0.13	11,139	-1.93	12,220	-0.20	14,653	0.30
1994	16,406	2.07	17,322	1.28	14,457	1.58	12,551	1.68	11,532	0.15	12,688	1.30	14,034	1.57	12,535	1.79	13,959	2.03	16,208	1.52
Population (thousands)																				
Actual																				
1979	23,183		18,298		17,392		24,379		23,454		25,686		23,947		24,677		23,513		20,527	
1986	23,781	0.37	18,644	0.27	17,637	0.20	27,930	2.08	24,858	0.86	25,589	-0.05	24,283	0.20	28,476	2.20	26,719	1.95	23,691	2.20
Projected																				
1987	23,928	0.62	18,783	0.75	17,705	0.39	28,461	1.90	25,120	1.05	25,699	0.43	24,349	0.27	28,619	0.50	27,049	1.24	24,121	1.82
1994	25,236	0.78	19,727	0.72	18,227	0.42	31,722	1.64	26,415	0.74	26,116	0.23	24,787	0.26	30,091	0.73	29,616	1.36	26,574	1.45
Population Age 65 and Over (thousands)																				
Actual																				
1979	2,797		2,199		2,036		3,109		2,477		2,699		2,839		2,523		2,420		2,036	
1986	3,071	1.40	2,468	1.75	2,315	1.96	4,038	4.27	2,881	2.33	2,910	1.12	3,054	1.08	3,046	2.96	2,879	2.71	2,529	3.46
Projected																				
1987	3,127	1.82	2,527	2.39	2,366	2.20	4,193	3.84	2,952	2.46	2,959	1.68	3,091	1.21	3,087	1.35	2,938	2.05	2,608	3.12
1994	3,425	1.36	2,855	1.85	2,661	1.78	5,108	3.12	3,309	1.73	3,150	0.92	3,229	0.64	3,312	1.04	3,300	1.76	3,033	2.33

Table Notes: Employment, Income, and Population

1. Detail may not add due to rounding.

2. All annual growth rates are computed on a **compound** basis.

3. Growth rates that round to zero are denoted as zero.

4. Economic and demographic data are not available for the Assistant Commissioner (International).

5. Data for IRS Regions are presented as though the alignment that became effective October 1, 1984 has existed since 1979.

6. Data for IRS Service Centers are presented as though the alignment that became effective January 1, 1986 has existed since 1979.

7. Historical economic and demographic data are not shown for those IRS Districts which have been created or subdivided since 1979 (i.e., Fort Lauderdale and Jacksonville in 1987; Houston and Austin in 1982; and Laguna Niguel, Sacramento, San Jose, Los Angeles and San Francisco in 1983).

8. Data may not add to regional totals due to inconsistencies in state-level data collection methods and/or the deletion of data for those IRS Districts which have been created or subdivided since 1979.

Table R-1. Total Collections—Actual: 1979, 1986 and Tax Return Filings—Actual: 1979, 1986 and Projected: 1987, 1994—United States and IRS Regions

	United States		North Atlantic		Mid-Atlantic		Southeast		Central		Midwest		Southwest		Western		AC(International)	
	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)
Total Collections (millions of $)																		
Actual																		
1979	480,412		76,986		64,680		51,672		70,939		73,463		52,309		67,087		2,128	
1986	782,252	8.98	138,288	11.38	119,461	12.10	103,473	14.32	97,384	5.33	106,315	6.39	95,255	11.73	119,348	11.13	5,959	25.72
Total Returns (000)																		
Actual																		
1979	134,732		18,864		18,205		22,678		17,420		19,591		16,221		21,065		683	
1986	187,978	4.87	25,706	4.52	25,196	4.75	33,211	5.60	21,972	3.37	25,443	3.80	24,423	6.02	30,949	5.65	1,078	6.74
Projected																		
1987	192,336	2.32	26,248	2.11	25,914	2.85	34,163	2.86	22,441	2.13	25,839	1.55	24,845	1.73	31,772	2.66	1,114	3.34
1994	225,992	2.50	29,861	1.97	30,203	2.36	41,239	2.96	25,083	1.68	28,775	1.62	30,264	3.12	39,163	3.32	1,403	3.70
Individual Returns																		
Total (000)																		
Actual																		
1979	90,868		12,544		12,455		15,183		12,260		13,138		10,813		14,051		418	
1986	101,953	1.66	13,559	1.16	14,020	1.80	18,367	3.00	12,627	0.43	13,532	0.43	13,132	3.06	16,207	2.19	509	2.86
Projected																		
1987	104,146	2.15	13,797	1.75	14,455	3.10	18,889	2.84	12,933	2.42	13,745	1.57	13,184	0.40	16,613	2.51	530	4.16
1994	117,478	1.83	15,221	1.47	16,145	1.67	21,864	2.25	14,112	1.30	14,945	1.25	14,809	1.76	19,687	2.64	694	4.41
Form 1040 (000)																		
Actual																		
1979	54,570		7,622		7,208		8,274		7,266		8,450		6,360		9,128		261	
1986	66,359	3.09	9,093	2.76	8,912	3.38	10,928	4.58	8,292	2.02	9,371	1.56	8,369	4.51	11,118	3.11	278	0.89
Projected																		
1987	69,087	4.11	9,482	4.28	9,420	5.71	11,494	5.18	8,688	4.78	9,666	3.15	8,508	1.66	11,534	3.75	294	5.94
1994	69,325	0.05	9,698	0.33	9,485	0.10	11,416	-0.10	8,998	0.51	9,625	-0.06	8,291	-0.36	11,430	-0.13	383	4.29
Form 1040A (000)																		
Actual																		
1979	36,157		4,922		5,247		6,907		4,994		4,688		4,453		4,922		22	
1986	18,408	-7.01	2,262	-7.72	2,610	-7.18	4,296	-5.40	2,169	-8.08	1,977	-8.26	2,485	-6.31	2,586	-6.78	22	-0.51
Projected																		
1987	18,009	-2.17	2,181	-3.60	2,516	-3.60	4,231	-1.52	2,076	-4.29	1,905	-3.64	2,455	-1.21	2,622	1.39	21	-0.63
1994	27,256	7.34	2,962	5.12	3,579	6.03	6,471	7.56	2,565	3.36	2,778	6.54	3,765	7.62	5,095	13.47	40	12.58
Form 1040EZ (000)																		
Actual																		
1986	16,983		2,204		2,498		3,143		2,166		2,183		2,278		2,503		9	
Projected																		
1987	16,844	-0.82	2,134	-3.17	2,518	0.78	3,164	0.69	2,169	0.13	2,173	-0.46	2,220	-2.51	2,456	-1.86	9	0.30
1994	20,639	3.22	2,561	2.86	3,081	3.19	3,977	3.67	2,549	2.51	2,543	2.43	2,753	3.43	3,162	4.10	14	8.45
Corporation Returns (000)																		
Actual																		
1979	2,591		482		341		430		287		367		292		378		8	
1986	3,701	5.23	605	3.65	475	5.59	696	8.83	376	4.42	468	3.92	502	8.05	557	5.69	23	28.73
Projected																		
1987	3,842	3.80	619	2.43	490	3.22	727	4.42	388	3.16	485	3.68	521	3.71	587	5.48	25	7.65
1994	5,239	5.20	727	2.48	645	4.52	1,065	6.64	501	4.17	641	4.58	755	6.44	869	6.84	37	7.13
Employment Returns (000)																		
Actual																		
1979	26,430		3,754		3,335		4,842		3,063		3,721		3,374		4,146		194	
1986	27,812	0.73	3,839	0.32	3,517	0.76	5,242	1.14	3,058	-0.02	3,692	-0.11	3,766	1.58	4,500	1.18	198	0.27
Projected																		
1987	28,232	1.51	3,866	0.72	3,562	1.29	5,334	1.74	3,078	0.63	3,730	1.02	3,837	1.87	4,624	2.76	202	2.03
1994	31,080	1.44	4,030	0.60	3,809	0.99	6,002	1.79	3,153	0.35	3,869	0.53	4,520	2.54	5,486	2.66	211	0.68

Table B-2. Total Collections—Actual: 1979, 1986 and Tax Return Filings—Actual: 1979, 1986 and Projected: 1987, 1994—IRS North Atlantic Region and Districts

	North Atlantic		Albany		Augusta		Boston		Brooklyn		Buffalo		Burlington		Hartford		Manhattan		Portsmouth		Providence	
	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)
Total Collections (millions of $)																						
Actual																						
1979	76,986		4,091		1,144		11,312		7,195		7,047		509		9,108		33,468		1,287		1,826	
1986	138,288	11.38	6,978	10.08	2,186	13.01	24,250	16.34	14,862	15.22	10,095	6.18	1,079	16.01	17,738	13.54	55,501	9.41	2,766	16.42	2,833	7.88
Total Returns (000)																						
Actual																						
1979	18,864		1,159		674		3,578		4,010		2,584		322		2,146		3,226		571		594	
1986	25,706	4.52	1,657	5.24	913	4.42	5,093	5.17	5,404	4.35	3,284	3.48	468	5.47	2,979	4.80	4,220	3.91	894	6.61	795	4.25
Projected																						
1987	26,248	2.11	1,692	2.11	934	2.33	5,216	2.42	5,519	2.13	3,342	1.77	477	2.08	3,042	2.10	4,296	1.79	922	3.13	809	1.82
1994	29,861	1.97	1,999	2.59	1,086	2.32	5,963	2.05	6,209	1.79	3,721	1.62	571	2.82	3,536	2.32	4,684	1.29	1,134	3.28	960	2.66
Individual Returns																						
Total (000)																						
Actual																						
1979	12,544		808		450		2,455		2,768		1,829		200		1,431		1,816		384		402	
1986	13,559	1.16	936	2.27	497	1.48	2,761	1.78	2,944	0.91	1,896	0.52	231	2.19	1,564	1.33	1,811	-0.05	482	3.63	437	1.25
Projected																						
1987	13,797	1.75	951	1.65	507	2.04	2,808	1.71	3,002	1.95	1,912	0.85	236	2.23	1,587	1.50	1,857	2.54	495	2.76	441	0.86
1994	15,221	1.47	1,100	2.23	577	1.96	3,044	1.20	3,316	1.50	2,024	0.83	268	1.96	1,754	1.50	2,060	1.57	579	2.42	498	1.84
Form 1040 (000)																						
Actual																						
1979	7,622		483		230		1,434		1,859		1,123		114		850		1,107		206		215	
1986	9,093	2.76	634	4.44	293	3.90	1,773	3.38	2,109	1.92	1,320	2.50	147	4.05	992	2.38	1,276	2.18	287	5.63	263	3.16
Projected																						
1987	9,482	4.28	663	4.58	303	3.43	1,858	4.79	2,192	3.96	1,350	2.24	153	4.41	1,037	4.53	1,345	5.44	308	7.34	273	3.90
1994	9,698	0.33	724	1.32	294	-0.41	1,894	0.28	2,194	0.01	1,317	-0.35	151	-0.21	1,056	0.26	1,442	1.03	333	1.16	292	0.99
Form 1040A (000)																						
Actual																						
1979	4,922		324		220		1,021		910		706		85		580		709		179		187	
1986	2,262	-7.72	142	-8.02	103	-7.62	423	-8.37	517	-6.17	264	-8.94	41	-7.45	253	-8.07	351	-7.22	84	-7.55	85	-7.83
Projected																						
1987	2,181	-3.60	132	-6.95	100	-2.54	396	-6.27	518	0.35	248	-6.05	38	-6.21	239	-5.56	354	0.77	77	-8.67	77	-8.42
1994	2,962	5.12	173	4.33	166	9.43	509	4.06	708	5.23	357	6.27	67	10.53	316	4.63	455	4.10	111	6.28	100	4.21
Form 1040EZ (000)																						
Actual																						
1986	2,204		160		101		565		319		312		43		319		184		111		90	
Projected																						
1987	2,134	-3.17	156	-2.31	104	2.68	554	-2.00	291	-8.71	314	0.78	44	2.81	311	-2.35	158	-14.20	111	-0.38	91	0.71
1994	2,561	2.86	203	4.27	116	1.68	641	2.25	414	6.03	350	1.63	50	2.07	382	3.25	163	0.47	136	3.25	106	2.38
Corporation Returns (000)																						
Actual																						
1979	482		23		12		80		113		46		8		48		123		12		17	
1986	605	3.65	30	4.62	16	4.20	102	3.87	146	4.29	49	1.08	11	5.82	58	3.18	156	3.77	16	5.66	19	1.81
Projected																						
1987	619	2.43	32	4.96	17	5.73	104	1.30	147	0.60	51	3.34	11	5.88	60	2.30	161	3.07	17	5.88	20	3.70
1994	727	2.48	40	3.85	23	4.95	124	2.80	167	1.95	56	1.44	16	5.88	70	2.55	182	1.90	24	5.64	24	2.96
Employment Returns (000)																						
Actual																						
1979	3,754		212		138		638		763		434		79		400		858		116		117	
1986	3,839	0.32	228	1.07	147	0.95	694	1.20	750	-0.25	428	-0.19	89	1.64	410	0.37	832	-0.43	139	2.57	121	0.52
Projected																						
1987	3,866	0.72	232	1.73	150	1.79	703	1.38	760	1.33	433	0.99	90	1.08	418	1.89	815	-2.15	143	3.24	123	1.42
1994	4,030	0.60	253	1.26	160	0.96	743	0.80	793	0.62	458	0.83	106	2.58	457	1.31	755	-1.04	171	2.74	135	1.44

Table R-3. Total Collections—Actual: 1979, 1986 and Tax Return Filings—Actual: 1979, 1986 and Projected: 1987, 1994—IRS Mid-Atlantic Region and Districts

	Mid-Atlantic		Baltimore		Newark		Philadelphia		Pittsburgh		Richmond		Wilmington	
	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)
Total Collections (millions of $)														
Actual														
1979	64,680		13,111		16,775		14,625		10,324		7,627		2,218	
1986	119,461	12.10	23,704	11.54	34,823	15.37	23,852	9.01	12,188	2.58	15,759	15.23	3,176	6.17
Total Returns (000)														
Actual														
1979	18,205		3,145		4,771		4,325		2,557		3,034		373	
1986	25,196	4.75	4,240	4.36	6,937	5.49	5,901	4.54	3,230	3.39	4,365	5.33	523	4.95
Projected														
1987	25,914	2.85	4,359	2.82	7,157	3.18	6,040	2.36	3,300	2.19	4,514	3.41	543	3.73
1994	30,203	2.36	5,117	2.48	8,460	2.60	6,795	1.78	3,786	2.10	5,396	2.79	650	2.81
Individual Returns Total (000)														
Actual														
1979	12,455		2,169		3,203		2,956		1,795		2,087		246	
1986	14,020	1.80	2,394	1.49	3,761	2.49	3,253	1.44	1,827	0.26	2,501	2.83	284	2.22
Projected														
1987	14,455	3.10	2,486	3.84	3,887	3.34	3,333	2.47	1,853	1.41	2,601	4.00	295	3.78
1994	16,145	1.67	2,853	2.11	4,408	1.92	3,546	0.91	2,010	1.21	2,984	2.11	344	2.40
Form 1040 (000)														
Actual														
1979	7,208		1,288		1,946		1,684		973		1,175		142	
1986	8,912	3.38	1,569	3.12	2,385	3.23	2,056	3.15	1,161	2.76	1,560	4.68	181	3.92
Projected														
1987	9,420	5.71	1,667	6.27	2,520	5.67	2,174	5.75	1,203	3.57	1,667	6.83	190	4.95
1994	9,485	0.10	1,716	0.42	2,560	0.22	2,160	-0.09	1,214	0.13	1,609	-0.49	226	2.74
Form 1040A (000)														
Actual														
1979	5,247		881		1,257		1,271		822		912		104	
1986	2,610	-7.18	387	-8.00	746	-5.81	622	-7.29	356	-8.11	450	-7.23	49	-7.55
Projected														
1987	2,516	-3.60	384	-0.99	724	-2.94	580	-6.70	340	-4.44	442	-1.71	46	-6.14
1994	3,579	6.03	588	7.61	1,057	6.56	713	3.26	439	4.17	732	9.36	50	1.16
Form 1040EZ (000)														
Actual														
1986	2,498		438		630		575		311		491		54	
Projected														
1987	2,518	0.78	436	-0.60	642	1.96	579	0.68	311	0.01	492	0.23	59	8.84
1994	3,081	3.19	549	3.72	791	3.31	673	2.32	357	2.14	643	4.38	68	2.26
Corporation Returns (000)														
Actual														
1979	341		53		134		68		29		48		9	
1986	475	5.59	80	7.14	176	4.39	90	4.74	38	4.60	77	8.48	14	8.58
Projected														
1987	490	3.22	82	2.86	182	3.80	91	1.38	39	1.83	81	4.65	15	5.82
1994	645	4.52	110	4.80	239	4.46	111	2.99	46	2.75	118	6.67	21	5.99
Employment Returns (000)														
Actual														
1979	3,335		569		912		755		432		595		72	
1986	3,517	0.76	616	1.14	975	0.96	770	0.29	425	-0.22	652	1.31	78	1.17
Projected														
1987	3,562	1.29	621	0.77	997	2.19	776	0.78	430	1.11	660	1.27	78	0.49
1994	3,809	0.99	689	1.56	1,081	1.22	779	0.05	444	0.45	737	1.66	79	0.17

Table R-4. Total Collections—Actual: 1979, 1986 and Tax Return Filings—Actual: 1979, 1986 and Projected: 1987, 1994—IRS Southeast Region and Districts

	Southeast		Atlanta		Birmingham		Columbia		Fort Lauderdale		Greensboro		Jackson		Jacksonville		Little Rock		Nashville		New Orleans	
	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)
Total Collections (millions of $)																						
Actual																						
1979	51,672		7,315		4,131		3,031		—		8,936		1,756		—		2,019		5,670		5,487	
1986	103,473	14.32	18,225	21.31	7,272	10.86	5,678	12.48	—	—	17,017	12.92	3,049	10.53	—	—	3,285	8.96	12,332	16.79	8,068	6.72
Total Returns (000)																						
Actual																						
1979	22,678		2,912		1,935		1,607		—		3,221		1,206		—		1,181		2,576		2,143	
1986	33,211	5.60	4,189	5.33	2,508	3.78	2,197	4.57	—	—	4,514	4.94	1,555	3.70	—	—	1,589	4.33	3,224	3.26	2,927	4.55
Projected																						
1987	34,163	2.86	4,317	3.04	2,554	1.84	2,264	3.07	5,158	—	4,669	3.43	1,590	2.25	—	—	1,630	2.58	3,356	4.10	2,870	-1.94
1994	41,239	2.96	5,239	3.05	2,954	2.24	2,693	2.70	6,638	4.10	5,420	2.30	1,846	2.30	7,389	4.06	1,855	1.97	3,934	2.46	3,270	1.99
Individual Returns																						
Total (000)																						
Actual																						
1979	15,183		1,989		1,327		1,097		—		2,204		810		—		778		1,806		1,448	
1986	18,367	3.00	2,465	3.41	1,501	1.87	1,311	2.79	—	—	2,631	2.77	912	1.78	—	—	869	1.65	1,916	0.87	1,651	2.00
Projected																						
1987	18,889	2.84	2,531	2.67	1,528	1.75	1,352	3.11	2,503	—	2,726	3.58	932	2.27	2,822	—	893	2.80	2,003	4.56	1,599	-3.11
1994	21,864	2.25	2,957	2.41	1,716	1.76	1,556	2.15	3,065	3.21	3,054	1.72	1,056	1.90	3,456	3.21	981	1.41	2,272	1.92	1,750	1.35
Form 1040 (000)																						
Actual																						
1979	8,274		1,033		766		572		—		1,185		396		—		451		924		762	
1986	10,928	4.58	1,386	4.88	924	2.95	759	4.66	—	—	1,551	4.41	480	3.02	—	—	546	3.00	1,073	2.30	967	3.83
Projected																						
1987	11,494	5.18	1,463	5.57	952	3.03	791	4.25	1,620	—	1,660	7.07	499	3.96	1,827	—	579	6.04	1,140	6.24	962	-0.48
1994	11,416	-0.10	1,458	-0.05	921	-0.46	756	-0.64	1,712	0.81	1,538	-1.05	495	-0.12	1,929	0.80	531	-1.19	1,086	-0.67	990	0.41
Form 1040A (000)																						
Actual																						
1979	6,909		956		562		525		—		1,019		414		—		327		882		685	
1986	4,296	-5.40	616	-5.09	362	-5.07	327	-5.40	—	—	628	-5.49	301	-3.91	—	—	203	-5.42	497	-6.23	433	-5.27
Projected																						
1987	4,231	-1.52	603	-2.06	356	-1.84	321	-1.64	428	—	619	-1.42	306	1.76	503	—	199	-1.90	504	1.33	391	-9.57
1994	6,471	7.56	935	7.86	525	6.80	525	9.03	742	10.44	972	8.17	401	4.40	837	9.48	302	7.37	766	7.42	467	2.77
Form 1040EZ (000)																						
Actual																						
1986	3,143		463		215		226		—		453		131		—		119		346		251	
Projected																						
1987	3,164	0.69	464	0.30	220	2.32	240	6.16	495	—	447	-1.40	127	-2.78	492	—	115	-4.02	359	3.98	246	-2.11
1994	3,977	3.67	564	3.08	270	3.19	276	2.13	612	4.95	543	3.08	161	3.80	690	5.75	148	4.18	420	2.41	293	2.74
Corporation Returns (000)																						
Actual																						
1979	430		51		29		25		—		56		18		—		21		34		45	
1986	696	8.84	83	9.01	39	4.69	40	8.25	—	—	79	6.07	25	5.06	—	—	29	5.77	47	5.38	73	8.84
Projected																						
1987	727	4.42	87	5.45	41	6.05	42	4.62	168	—	82	4.09	26	6.39	126	—	30	5.08	49	5.63	75	1.77
1994	1,065	6.64	131	7.14	56	5.08	61	6.28	262	8.03	117	5.95	35	4.56	196	8.03	41	4.93	70	5.88	98	4.39
Employment Returns (000)																						
Actual																						
1979	4,842		632		416		341		—		680		275		—		260		512		463	
1986	5,242	1.14	694	1.34	408	-0.26	359	0.73	—	—	728	0.98	268	-0.35	—	—	257	-0.18	507	-0.13	480	0.52
Projected																						
1987	5,334	1.74	707	1.86	410	0.29	365	1.63	752	—	743	2.06	270	0.47	848	—	259	0.72	514	1.30	466	-2.87
1994	6,002	1.79	788	1.65	425	0.52	396	1.23	954	3.82	796	1.01	279	0.48	1,075	3.82	269	0.56	548	0.95	472	0.17

Table R-5. Total Collections—Actual: 1979, 1986 and Tax Return Filings—Actual: 1979, 1986 and Projected: 1987, 1994—IRS Central Region and Districts

	Central		Cincinnati		Cleveland		Detroit		Indianapolis		Louisville		Parkersburg	
	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)
Total Collections (millions of $)														
Actual														
1979	70,939		11,301		16,111		26,664		9,820		5,272		1,771	
1986	97,384	5.33	14,620	4.20	21,629	4.89	36,718	5.39	15,860	8.79	6,517	3.37	2,040	2.17
Total Returns (000)														
Actual														
1979	17,420		2,665		3,652		5,158		3,116		1,868		961	
1986	21,972	3.37	3,337	3.26	4,591	3.32	6,530	3.43	3,961	3.49	2,394	3.61	1,158	2.70
Projected														
1987	22,441	2.13	3,426	2.67	4,676	1.86	6,675	2.21	4,058	2.45	2,440	1.90	1,165	0.60
1994	25,083	1.68	3,778	1.47	5,229	1.69	7,463	1.69	4,557	1.76	2,728	1.69	1,328	1.99
Individual Returns														
Total (000)														
Actual														
1979	12,260		1,886		2,567		3,687		2,187		1,272		661	
1986	12,627	0.43	1,932	0.35	2,588	0.12	3,809	0.47	2,269	0.53	1,365	1.04	664	0.07
Projected														
1987	12,933	2.42	1,987	2.83	2,644	2.17	3,918	2.87	2,332	2.80	1,387	1.57	664	0.05
1994	14,112	1.30	2,118	0.94	2,980	1.81	4,304	1.41	2,543	1.29	1,469	0.85	698	0.72
Form 1040 (000)														
Actual														
1979	7,266		1,054		1,519		2,346		1,258		777		312	
1986	8,292	2.02	1,213	2.16	1,692	1.63	2,649	1.85	1,427	1.93	915	2.53	395	3.81
Projected														
1987	8,688	4.78	1,285	5.97	1,763	4.16	2,789	5.26	1,496	4.84	944	3.22	411	3.88
1994	8,998	0.51	1,310	0.27	1,913	1.22	2,957	0.86	1,493	-0.03	948	0.06	377	-1.17
Form 1040A (000)														
Actual														
1979	4,994		832		1,048		1,341		929		495		348	
1986	2,169	-8.08	353	-8.22	449	-8.17	497	-8.99	452	-7.35	252	-7.03	167	-7.43
Projected														
1987	2,076	-4.29	331	-6.27	424	-5.53	474	-4.51	443	-1.85	246	-2.03	157	-6.09
1994	2,565	3.36	401	3.00	521	3.30	565	2.74	588	4.67	288	2.38	202	4.07
Form 1040EZ (000)														
Actual														
1986	2,166		366		447		663		390		199		101	
Projected														
1987	2,169	0.13	370	1.23	458	2.37	655	-1.13	393	0.74	196	-1.45	97	-4.72
1994	2,549	2.51	408	1.44	546	2.74	782	2.76	462	2.50	233	2.72	119	3.31
Corporation Returns (000)														
Actual														
1979	287		41		63		87		52		29		16	
1986	376	4.42	50	3.21	77	3.19	120	5.54	70	4.95	40	5.38	18	2.73
Projected														
1987	388	3.16	52	2.95	79	2.99	124	3.14	72	3.26	42	4.05	19	2.34
1994	501	4.17	63	3.32	95	2.77	163	4.45	101	5.59	56	4.85	24	3.64
Employment Returns (000)														
Actual														
1979	3,063		458		639		866		537		374		189	
1986	3,058	-0.02	447	-0.36	623	-0.37	906	0.64	536	-0.03	373	-0.04	175	-1.13
Projected														
1987	3,078	0.63	451	0.89	627	0.61	913	0.87	538	0.40	375	0.47	174	-0.12
1994	3,153	0.35	458	0.24	629	0.06	945	0.49	554	0.42	388	0.50	180	0.45

Table R-6. Total Collections—Actual: 1979, 1986 and Tax Return Filings—Actual: 1979, 1986 and Projected: 1987, 1994—IRS Midwest Region and Districts

	Midwest		Aberdeen		Chicago		Des Moines		Fargo		Helena		Milwaukee		Omaha		St. Louis		St. Paul		Springfield	
	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)
Total Collections (millions of $)																						
Actual																						
1979	73,463		671		28,176		4,081		761		828		8,777		2,976		11,581		10,354		5,257	
1986	106,315	6.39	1,055	8.18	40,193	6.09	5,532	5.08	1,143	7.16	1,183	6.12	12,861	6.65	4,600	7.80	19,444	9.70	14,096	5.16	6,208	2.58
Total Returns (000)																						
Actual																						
1979	19,591		434		5,242		1,865		424		528		2,883		1,020		2,906		2,459		1,830	
1986	25,443	3.80	559	3.68	6,675	3.51	2,334	3.25	567	4.23	694	3.98	3,764	3.88	1,316	3.71	3,923	4.38	3,315	4.36	2,298	3.30
Projected																						
1987	25,839	1.55	566	1.25	6,793	1.76	2,346	0.54	567	0.09	696	0.22	3,823	1.58	1,336	1.48	4,002	2.00	3,389	2.24	2,322	1.05
1994	28,775	1.62	639	1.84	7,549	1.59	2,555	1.27	660	2.33	770	1.53	4,263	1.64	1,454	1.26	4,505	1.80	3,866	2.01	2,515	1.19
Individual Returns																						
Total (000)																						
Actual																						
1979	13,138		271		3,670		1,184		262		324		1,938		640		1,943		1,667		1,239	
1986	13,532	0.43	283	0.63	3,662	-0.03	1,157	-0.32	277	0.86	336	0.50	2,016	0.57	671	0.70	2,092	1.09	1,806	1.19	1,231	-0.10
Projected																						
1987	13,745	1.57	284	0.28	3,732	1.90	1,155	-0.18	274	-1.34	326	-3.01	2,065	2.47	678	1.04	2,140	2.28	1,845	2.14	1,247	1.27
1994	14,945	1.25	305	1.06	4,079	1.33	1,237	1.01	286	0.64	335	0.42	2,262	1.36	715	0.78	2,357	1.45	2,026	1.40	1,344	1.12
Form 1040 (000)																						
Actual																						
1979	8,450		178		2,227		845		177		225		1,246		423		1,222		1,125		781	
1986	9,371	1.56	199	1.69	2,369	0.91	884	0.66	201	1.91	252	1.72	1,365	1.36	474	1.72	1,455	2.72	1,334	2.65	838	1.04
Projected																						
1987	9,666	3.15	201	0.83	2,456	3.66	894	1.13	199	-0.64	247	-2.03	1,411	3.39	474	-0.19	1,554	6.79	1,364	2.27	867	3.44
1994	9,625	-0.06	183	-1.26	2,549	0.54	896	0.03	183	-1.15	231	-0.91	1,392	-0.19	429	-1.35	1,537	-0.16	1,348	-0.17	877	0.18
Form 1040A (000)																						
Actual																						
1979	4,688		93		1,443		339		85		99		692		216		721		541		458	
1986	1,977	-8.26	39	-8.38	672	-7.63	123	-9.10	33	-8.69	37	-9.03	296	-8.17	91	-8.28	319	-7.97	160	-10.08	208	-7.80
Projected																						
1987	1,905	-3.64	38	-1.32	643	-4.33	115	-6.52	32	-4.57	33	-9.63	296	0.17	94	3.61	298	-6.58	157	-1.72	199	-4.50
1994	2,778	6.54	70	12.12	819	3.89	164	6.07	53	9.78	57	10.23	441	6.96	170	11.49	439	6.74	303	13.28	263	4.60
Form 1040EZ (000)																						
Actual																						
1986	2,183		45		621		150		43		47		355		106		318		312		185	
Projected																						
1987	2,173	-0.46	45	-0.80	633	1.91	146	-2.67	43	-2.12	46	-3.09	358	0.85	110	4.34	288	-9.45	324	3.56	181	-2.05
1994	2,543	2.43	52	2.02	711	1.77	177	2.95	49	2.24	47	0.52	429	2.83	116	0.76	382	4.66	375	2.29	204	1.83
Corporation Returns (000)																						
Actual																						
1979	367		7		108		36		7		11		55		21		56		48		22	
1986	468	3.92	9	3.11	137	4.70	42	2.50	9	3.33	15	4.78	65	2.66	27	3.90	71	3.81	64	4.75	28	4.17
Projected																						
1987	485	3.68	10	9.28	139	1.10	44	3.46	10	9.62	15	5.52	67	2.20	29	4.84	72	2.04	70	8.98	30	6.37
1994	641	4.58	13	5.32	175	3.74	61	5.74	14	5.52	19	3.67	85	4.05	40	5.56	94	4.36	100	6.22	38	3.73
Employment Returns (000)																						
Actual																						
1979	3,721		101		866		388		100		122		538		225		572		463		346	
1986	3,692	-0.11	97	-0.59	866	0.00	352	-1.38	98	-0.34	127	0.53	553	0.41	216	-0.56	577	0.14	483	0.59	323	-0.98
Projected																						
1987	3,730	1.02	98	1.17	875	1.02	354	0.70	100	2.66	129	1.86	557	0.70	221	2.13	580	0.43	489	1.39	325	0.74
1994	3,869	0.53	101	0.44	897	0.36	365	0.43	108	1.09	129	-0.04	595	0.96	228	0.47	586	0.14	531	1.20	330	0.19

Table R-7. Total Collections—Actual: 1979, 1986 and Tax Return Filings—Actual: 1979, 1986 and Projected: 1987, 1994—IRS Southwest Region and Districts

	Southwest		Albuquerque		Austin		Cheyenne		Dallas		Denver		Houston		Oklahoma City		Phoenix		Salt Lake City		Wichita	
	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)
Total Collections (millions of $)																						
Actual																						
1979	52,309		1,240		—		641		11,686		6,731		—		5,030		3,262		1,608		3,936	
1986	95,255	11.73	2,365	12.95	11,684	—	851	4.68	26,230	17.78	12,343	11.91	15,685	—	10,049	14.26	6,562	14.45	3,083	13.11	6,404	8.96
Total Returns (000)																						
Actual																						
1979	16,221		712		—		302		3,462		1,807		—		1,675		1,440		746		1,491	
1986	24,423	6.02	1,039	5.55	3,788	—	403	4.22	5,441	6.67	2,706	5.94	3,022	—	2,418	5.39	2,529	8.38	1,037	4.82	2,039	4.58
Projected																						
1987	24,845	1.73	1,049	0.95	3,868	2.12	400	-0.79	5,485	0.81	2,767	2.24	3,089	2.22	2,402	-0.69	2,649	4.76	1,065	2.69	2,071	1.56
1994	30,264	3.12	1,328	3.80	4,708	3.10	464	2.28	6,422	2.44	3,445	3.50	3,838	3.46	2,788	2.30	3,489	4.53	1,370	4.09	2,413	2.36
Individual Returns																						
Total (000)																						
Actual																						
1979	10,813		485		—		188		2,256		1,186		—		1,100		978		506		950	
1986	13,132	3.06	592	3.16	2,128	—	206	1.41	2,885	3.98	1,426	2.89	1,660	—	1,270	2.21	1,342	5.32	593	2.47	1,029	1.19
Projected																						
1987	13,184	0.40	598	0.95	2,144	0.76	202	-1.99	2,853	-1.09	1,448	1.56	1,646	-0.86	1,247	-1.83	1,400	4.29	605	1.98	1,041	1.13
1994	14,809	1.76	727	3.09	2,424	1.86	218	1.10	3,085	1.16	1,665	2.14	1,792	1.26	1,352	1.21	1,689	2.95	706	2.38	1,152	1.53
Form 1040 (000)																						
Actual																						
1979	6,360		263		—		121		1,286		767		—		721		620		323		625	
1986	8,369	4.51	354	4.91	1,133	—	145	2.88	1,736	5.01	1,009	4.49	1,001	—	876	3.06	939	7.37	421	4.31	754	2.97
Projected																						
1987	8,508	1.66	367	3.82	1,155	1.94	145	0.26	1,743	0.36	1,027	1.79	1,006	0.49	869	-0.78	999	6.34	431	2.46	765	1.47
1994	8,291	-0.36	418	1.96	1,126	-0.36	135	-1.04	1,662	-0.66	991	-0.49	960	-0.65	870	0.00	982	-0.23	422	-0.32	724	-0.77
Form 1040A (000)																						
Actual																						
1979	4,453		221		—		67		970		419		—		379		358		182		325	
1986	2,485	-6.31	136	-5.54	567	—	27	-8.51	615	-5.23	175	-8.30	367	—	213	-6.25	189	-6.76	69	-8.88	128	-8.65
Projected																						
1987	2,455	-1.21	136	0.38	576	1.53	25	-8.16	597	-2.93	173	-1.07	352	-3.95	203	-4.50	190	0.64	71	2.17	132	3.25
1994	3,765	7.62	177	4.25	811	5.83	40	8.88	826	5.49	354	14.92	496	5.83	268	4.54	398	15.68	154	16.90	241	11.75
Form 1040EZ (000)																						
Actual																						
1986	2,278		102		428		34		534		242		298		181		214		103		146	
Projected																						
1987	2,220	-2.51	94	-8.20	414	-3.38	32	-6.69	514	-3.69	248	2.50	288	-1.58	174	-3.77	211	-1.49	103	-0.10	143	-2.49
1994	2,753	3.43	132	5.84	487	2.53	43	4.81	597	2.30	320	4.10	336	2.36	215	3.33	308	6.57	130	3.75	186	4.36
Corporation Returns (000)																						
Actual																						
1979	291		11		—		7		59		39		—		32		27		17		26	
1986	502	8.10	18	7.92	62	—	9	3.91	110	12.49	65	9.37	71	—	52	9.24	52	13.26	24	6.29	38	6.47
Projected																						
1987	521	3.71	18	3.61	65	4.43	10	9.69	110	0.74	69	6.24	73	2.27	53	2.35	57	9.33	25	3.83	39	2.09
1994	755	6.44	28	7.56	94	6.28	13	4.40	149	5.02	107	7.69	104	6.02	69	4.37	96	9.77	39	8.02	56	6.20
Employment Returns (000)																						
Actual																						
1979	3,374		150		—		71		767		376		—		353		269		150		321	
1986	3,766	1.58	163	1.23	580	—	72	0.26	867	1.77	433	2.03	449	—	371	0.70	353	3.95	156	3.95	323	0.08
Projected																						
1987	3,837	1.87	159	-2.57	586	1.09	70	-2.77	879	1.38	443	2.25	482	7.48	358	-3.50	377	7.00	159	1.74	324	0.23
1994	4,520	2.54	174	1.33	648	1.51	75	0.94	978	1.60	571	4.13	614	3.89	347	-0.42	549	6.50	210	4.62	355	1.37

Table R-8. Total Collections—Actual: 1979, 1986 and Tax Return Filings—Actual: 1979, 1986 and Projected: 1987, 1994—IRS Western Region and Districts

	Western		Anchorage		Boise		Honolulu		Laguna Niguel		Las Vegas		Los Angeles		Portland		Sacramento		San Francisco		San Jose		Seattle	
	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)
Total Collections (millions of $)																								
Actual																								
1979	67,087		796		1,313		1,455		—		1,471		—		4,864		—		—		—		7,629	
1986	119,348	11.13	1,576	14.00	2,025	7.75	2,337	8.66	18,492	—	2,774	12.65	30,592	—	9,045	12.28	7,610	—	19,778	—	13,132	—	11,986	8.16
Total Returns (000)																								
Actual																								
1979	21,065		254		537		597		—		493		—		1,763		—		—		—		2,513	
1986	30,949	5.65	422	7.53	697	3.80	857	5.30	6,144	—	780	6.77	5,715	—	2,227	3.39	3,674	—	2,683	—	4,118	—	3,632	5.40
Projected																								
1987	31,772	2.66	421	-0.27	706	1.26	879	2.61	6,333	3.07	814	4.45	5,872	2.76	2,280	2.40	3,759	2.30	2,744	2.30	4,221	2.52	3,741	3.00
1994	39,163	3.32	506	2.89	815	2.22	1,087	3.37	8,100	3.99	1,111	5.21	7,185	3.19	2,614	2.09	4,709	3.61	3,324	3.02	5,164	3.19	4,547	3.08
Individual Returns																								
Total (000)																								
Actual																								
1979	14,051		174		347		408		—		340		—		1,177		—		—		—		1,656	
1986	16,207	2.19	237	5.19	367	0.81	470	2.18	3,304	—	445	4.40	2,993	—	1,123	-0.65	1,840	—	1,352	—	2,174	—	1,901	2.11
Projected																								
1987	16,613	2.51	235	-0.72	369	0.65	483	2.75	3,407	3.10	461	3.67	3,073	2.67	1,148	2.20	1,869	1.58	1,382	2.16	2,233	2.68	1,954	2.79
1994	19,687	2.64	253	1.04	402	1.25	580	2.89	4,265	3.60	583	3.76	3,703	2.93	1,231	1.03	2,202	2.55	1,610	2.36	2,678	2.85	2,180	1.65
Form 1040 (000)																								
Actual																								
1979	9,128		115		233		258		—		213		—		721		—		—		—		1,014	
1986	11,118	3.11	198	10.24	267	2.10	315	3.16	2,297	—	287	4.95	2,052	—	787	1.31	1,301	—	886	—	1,454	—	1,273	3.65
Projected																								
1987	11,534	3.75	191	-3.38	269	0.69	330	4.56	2,414	5.12	301	4.89	2,133	3.95	801	1.74	1,349	3.68	917	3.54	1,507	3.69	1,321	3.77
1994	11,430	-0.13	197	0.45	255	-0.74	338	0.38	2,474	0.35	312	0.53	2,130	-0.02	743	-1.04	1,328	-0.23	871	-0.72	1,515	0.07	1,266	-0.59
Form 1040A (000)																								
Actual																								
1979	4,922		59		114		150		—		127		—		456		—		—		—		642	
1986	2,586	-6.78	23	-8.70	50	-8.08	74	-7.24	492	—	74	-5.91	577	—	155	-9.43	256	—	220	—	386	—	280	-8.06
Projected																								
1987	2,622	1.39	23	-1.78	50	1.18	74	-0.07	504	2.49	76	2.28	585	1.38	162	4.72	257	0.23	219	-0.13	391	1.34	281	0.36
1994	5,095	13.47	30	4.89	88	10.93	144	13.63	1,077	16.25	163	16.30	1,100	12.57	307	12.78	529	15.11	430	13.73	727	12.29	498	11.03
Form 1040EZ (000)																								
Actual																								
1986	2,503		16		50		81		516		83		363		181		282		247		335		348	
Projected																								
1987	2,456	-1.87	22	33.06	50	-0.10	79	-1.69	489	-5.30	84	0.70	354	-2.50	185	2.02	263	-6.92	245	-0.74	334	-0.18	352	1.15
1994	3,162	4.10	25	2.26	58	2.28	98	3.29	713	6.58	107	3.99	472	4.78	182	-0.25	345	4.50	309	3.72	436	4.35	415	2.56
Corporation Returns (000)																								
Actual																								
1979	378		5		11		16		—		10		—		32		—		—		—		46	
1986	557	5.69	9	12.25	14	4.43	21	4.09	108	—	18	10.29	127	—	41	3.84	51	—	42	—	63	—	65	5.90
Projected																								
1987	587	5.48	9	1.13	15	9.61	22	8.00	113	5.06	20	9.69	135	5.95	42	4.26	54	6.00	44	6.09	66	5.22	67	3.08
1994	869	6.84	13	5.39	21	5.58	34	7.31	179	8.31	33	9.30	190	5.82	58	5.10	82	7.47	63	6.09	101	7.43	97	6.40
Employment Returns (000)																								
Actual																								
1979	4,146		50		118		109		—		92		—		346		—		—		—		517	
1986	4,500	1.18	70	4.85	120	0.29	121	1.46	820	—	110	2.54	867	—	343	-0.11	528	—	372	—	601	—	547	0.81
Projected																								
1987	4,624	2.76	66	-4.69	120	-0.31	123	2.07	853	4.00	116	5.63	881	1.66	353	2.78	559	5.68	380	2.21	613	1.99	560	2.38
1994	5,486	2.66	77	2.24	132	1.37	145	2.53	1,072	3.67	168	6.40	950	1.11	409	2.28	768	5.37	426	1.72	674	1.43	665	2.68

Table R-9. Total Collections—Actual: 1979, 1986 and Tax Returns Filings—Actual: 1979, 1986 and Projected: 1987, 1994—IRS Service Centers

	Andover		Brookhaven		Philadelphia		Atlanta		Memphis		Cincinnati		Kansas City		Austin		Ogden		Fresno	
	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)
Total Collections (millions of $)																				
Actual																				
1979	46,677		57,438		42,405		29,560		34,072		61,119		57,873		45,555		33,551		51,013	
1986	82,020	10.82	105,187	11.88	68,879	8.92	62,771	16.05	64,252	12.65	81,525	4.77	84,239	6.51	80,484	10.95	65,837	13.75	84,331	9.33
Total Returns (000)																				
Actual																				
1979	14,087		12,007		11,083		13,557		13,137		14,304		14,726		14,069		12,261		15,505	
1986	19,130	4.47	16,862	4.97	14,921	4.34	21,049	6.49	17,508	4.19	18,049	3.38	19,102	3.79	20,731	5.69	20,947	7.95	19,679	3.46
Projected																				
1987	19,600	2.46	17,225	2.15	15,314	2.63	21,715	3.17	18,105	3.41	18,414	2.03	19,377	1.44	20,883	0.73	21,514	2.71	20,189	2.59
1994	22,585	2.18	19,636	2.00	17,701	2.23	26,846	3.38	21,026	2.31	20,562	1.67	21,490	1.56	24,820	2.69	26,310	3.18	25,016	3.42
Individual Returns																				
Total (000)																				
Actual																				
1979	7,960		7,788		7,583		8,947		10,217		8,140		9,974		10,182		9,715		10,357	
1986	10,610	4.76	8,516	1.34	8,268	1.24	11,300	3.76	10,186	-0.04	10,358	3.89	10,158	0.26	11,215	1.45	11,048	1.96	10,294	-0.09
Projected																				
1987	10,783	1.63	8,745	2.69	8,497	2.78	11,668	3.25	10,555	3.63	10,601	2.34	10,339	1.78	11,128	-0.77	11,253	1.85	10,576	2.75
1994	11,870	1.44	9,785	1.70	9,447	1.60	13,807	2.62	11,834	1.73	11,569	1.31	11,279	1.30	12,282	1.48	12,769	1.92	12,837	3.05
Form 1040 (000)																				
Actual																				
1979	5,782		4,911		4,349		4,952		4,998		6,008		6,321		5,291		5,131		6,831	
1986	7,042	3.12	5,770	2.50	5,244	2.94	6,791	5.31	6,157	3.33	6,865	2.04	6,911	1.33	6,822	4.13	7,754	7.30	7,004	0.36
Projected																				
1987	7,309	3.79	6,058	4.99	5,528	5.40	7,152	5.32	6,542	6.26	7,192	4.76	7,181	3.91	6,868	0.68	7,956	2.60	7,302	4.25
1994	7,409	0.20	6,196	0.33	5,698	0.44	7,271	0.24	6,258	-0.62	7,505	0.62	7,251	0.14	6,751	-0.24	7,658	-0.53	7,329	0.05
Form 1040A (000)																				
Actual																				
1979	3,845		2,876		3,100		3,995		4,070		4,064		3,653		4,112		2,917		3,525	
1986	1,554	-8.51	1,614	-6.27	1,436	-7.67	2,536	-5.22	2,230	-6.46	1,717	-8.25	1,619	-7.96	2,458	-5.75	1,498	-6.95	1,748	-7.20
Projected																				
1987	1,465	-5.71	1,596	-1.08	1,371	-4.49	2,518	-0.69	2,208	-0.99	1,633	-4.93	1,552	-4.14	2,388	-2.85	1,505	0.49	1,773	1.43
1994	2,101	6.20	2,221	5.59	1,829	4.78	3,964	8.20	3,361	7.46	1,977	3.01	2,125	5.28	3,286	5.37	2,914	13.37	3,479	13.74
Form 1040EZ (000)																				
Actual																				
1986	2,013		1,132		1,387		1,974		1,799		1,776		1,629		1,935		1,796		1,542	
Projected																				
1987	2,009	-0.24	1,091	-3.67	1,393	0.44	1,998	1.23	1,805	0.37	1,776	-0.00	1,606	-1.41	1,872	-3.25	1,792	-0.23	1,502	-2.61
1994	2,360	2.50	1,368	3.63	1,661	2.75	2,573	4.11	2,216	3.25	2,088	2.51	1,903	2.64	2,246	2.85	2,197	3.23	2,029	5.02
Corporation Returns (000)																				
Actual																				
1979	246		370		166		274		234		190		272		267		254		305	
1986	366	7.02	478	4.15	245	6.79	468	10.05	302	4.12	306	8.64	344	3.77	425	6.86	407	8.56	360	2.40
Projected																				
1987	381	4.03	490	2.58	252	2.77	490	4.73	315	4.37	315	3.14	352	2.23	434	2.16	432	6.05	381	5.69
1994	478	3.61	589	2.87	325	4.12	740	7.29	446	5.94	400	3.85	454	4.17	598	5.40	643	7.01	566	6.96
Employment Returns (000)																				
Actual																				
1979	2,597		2,533		2,022		2,927		2,584		2,526		2,710		2,971		2,537		3,023	
1986	2,739	0.78	2,558	0.14	2,087	0.45	3,270	1.59	2,680	0.52	2,523	-0.02	2,672	-0.20	3,233	1.21	3,270	3.69	2,781	-1.19
Projected																				
1987	2,781	1.54	2,571	0.53	2,107	0.95	3,351	2.50	2,714	1.26	2,540	0.68	2,692	0.75	3,254	0.67	3,370	3.06	2,851	2.51
1994	3,012	1.19	2,630	0.33	2,202	0.64	3,917	2.41	2,904	1.00	2,600	0.34	2,773	0.43	3,587	1.46	4,189	3.47	3,267	2.09

Table R-10. Information Documents and Federal Tax Deposits—Actual: 1980, 1986 and Projected: 1987, 1993—United States and IRS Service Centers

	United States		Andover		Brookhaven		Philadelphia		Atlanta		Memphis		Cincinnati		Kansas City		Austin		Ogden		Fresno	
	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)
Information Documents																						
Total (000)																						
Actual																						
1980	374,842		5,221		6,818		4,237		4,251		6,628		5,082		9,726		8,712		5,940		3,261	
1986	629,826	9.0	6,398	3.4	6,870	0.1	4,855	2.3	5,091	3.1	5,015	-4.5	6,969	5.4	7,008	-5.3	10,965	3.9	9,689	8.5	8,036	16.2
Projected																						
1987	661,533	5.0	5,479	-14.4	5,854	-14.8	4,172	-14.1	4,401	-13.6	4,311	-15.6	5,945	-14.7	6,007	-14.3	9,478	-13.6	8,382	-13.5	6,940	-13.6
1993	867,733	4.6	5,283	-0.6	5,779	-0.2	4,045	-0.5	4,405	.0	4,233	-0.3	5,524	-1.2	5,610	-1.1	9,577	0.2	8,296	-0.2	6,984	0.1
Federal Tax Deposits (000)																						
Actual																						
1980	56,214		5,147		5,777		4,039		5,464		5,631		4,821		6,349		6,518		6,126		6,341	
1986	68,389	3.3	7,099	5.5	6,857	2.9	4,844	3.1	7,390	5.2	6,241	1.7	6,335	4.7	6,987	1.6	7,693	2.8	6,686	1.5	8,257	4.5
Projected																						
1987	72,678	6.3	7,500	5.6	7,235	5.5	5,125	5.8	7,914	7.1	6,592	5.6	6,676	5.4	7,364	5.4	8,212	6.7	7,256	8.5	8,805	6.6
1993	91,328	3.9	9,008	3.1	8,628	3.0	6,176	3.2	10,472	4.8	8,037	3.4	7,751	2.5	8,545	2.5	10,643	4.4	10,563	6.5	11,506	4.6

Table Notes: Collections, Tax Returns, Information Documents, and Federal Tax Deposits

1. Detail may not add due to rounding.

2. All annual growth rates are computed on a **compound** basis.

3. Growth rates that round to zero are denoted as zero.

4. Form 1040EZ was introduced in filing year 1983. Therefore, no 1979 data or 1979-1986 growth rates for Form 1040EZ appear in the tables. In addition, the introduction of Form 1040EZ has significantly reduced the number of Forms 1040A filed since 1983.

5. Total Collections are on a fiscal year basis, while all other data are presented on a calendar year basis. The source of the Total Collections data is Table 1 of the Commissioner's Annual Report, 1979 and 1986, respectively.

6. U.S. Total Collections differ from the sum of Total Collections for IRS Regions since the U.S. figures include collections that are **undistributed** to the Regions. For a more complete explanation of the components of the Total Collections category, see Table 1 of the Commissioner's Annual Report.

7. Data for IRS Regions are presented as though the regional alignment that became effective October 1, 1984 has existed since 1979.

8. Data for IRS Service Centers are presented as though the alignment that became effective January 1, 1986 has existed since 1979.

9. Historical return data are not shown for those IRS Districts which were created or subdivided after 1979 (i.e., Fort Lauderdale and Jacksonville in 1987; Houston and Austin in 1982; and Laguna Niguel, Sacramento, San Jose, Los Angeles, and San Francisco in 1983).

10. Return data may not add to regional totals due to the deletion of historical data for those IRS Districts which have been created or subdivided since 1979.

11. Total Returns consist of the following forms:

o Individual	Forms 1040, 1040A, 1040C, 1040EZ (1986, 1987, and 1994 only), 1040NR, 1040PR, 1040SS
o Estimated Tax	Forms 1040ES (entities for 1979, vouchers for 1986, 1987, and 1994)
o Fiduciary	Form 1041
o Partnership	Form 1065
o Corporation	Forms 1120, 1120A (1986, 1987, and 1994 only), 1120F, 1120H, 1120POL, 1120S, and other 1120's.

o Estate	Forms 706, 706NA
o Gift	Form 709
o Employment	Forms 940, 940PR, 941, 941E, 941PR, 941SS, 942, 942PR, 943, 943PR, CT-1, 941M (1979 only), and CT-2 (1979 only).
o Exempt Organization	Forms 990, 900C, 990PF, 990T, 4720, and 5227.
o Employee Plans	Forms 5500, 5500C, 5500K (1979 only), and 5500R.
o Alcohol, Tobacco and Firearms	Years 1979, 1986 and 1987: Forms 11 and 5000.24 (Alcohol and Tobacco Excise). Also filed in year 1979: Forms 7, 8, 4705, 4706, 4707, and 4708.
o Excise	Forms 11B (1979 only), 11C, 720, 720M (1979 only), 730, 2290, and 4638 (1979 only).
o Selected Supplemental Documents	Forms 1040X, 1120X, 2688, 4868, and 7004. Also filed in years 1986, 1987 and 1994: Forms 1041A, 1042, 1120ND. Also filed in year 1979: Forms 2438, 990AR, 4578, 5300, and 7005.
o Non Master File	Years 1986, 1987 and 1994: Forms CT-2, 941M, 990BL, and 1120-DISC/FSC. Also filed in year 1986: 941NMI.

12. Since Form 1040ES filings are presented on an entity basis in 1979 and on a voucher basis for 1986, 1987 and 1994, growth rates in the Total Returns category for 1979-1986 are not comparable to the 1986-1987 or the 1987-1994 intervals.

13. Information Documents consist of the following: Forms 1099DIV, 1099INT, 1099MISC, 1099OID, 1099PATR, and 1099R. Also filed in years 1986, 1987 and 1994: Forms 1098, 1099A, 1099B, 1099G, and 5498.

Publications Available on Return Projections

Document Number	Title
6149	Number of Returns to be Filed, Districts (Rev. 12-87)
6186	Number of Returns to be Filed, United States, Regions and Service Center Areas (Rev. 10-87)
6187	Forms 1040, 1040A and 1040EZ by Full-Paid, Other-Than-Full-Paid and Refunds, United States and Service Center Areas (Rev. 5-87) and (Rev. 9-87)
6235	Number of Examination Class Returns to be Filed by District: Individual, Partnership, Corporation and Estate (Rev. 11-87)
6292	Fiscal Year Projections of Returns to be Filed, United States (Rev. 5-87) and (Rev. 8-87)
6961	Information and Withholding Documents, United States and Service Center Areas (Rev. 4-87)

These publications may be obtained by writing to:

Internal Revenue Service
Research Division
PFR:R
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